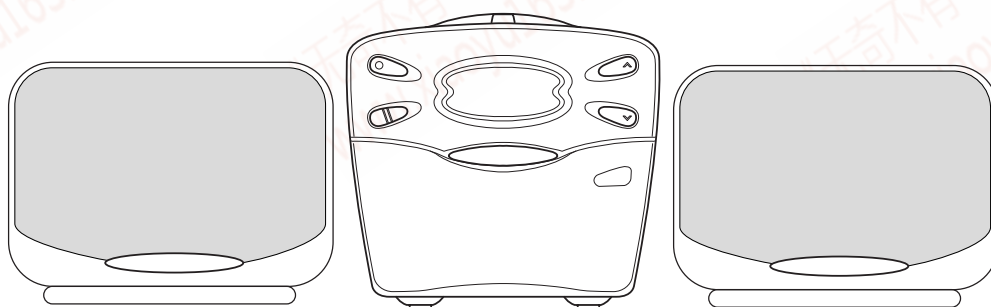




# XR-M313 U



## SERVICE MANUAL

COMPACT DISC STEREO SYSTEM

BASIC CD MECHANISM : DA11B3

SYSTEM	COMPACT DISC	SPEAKER	REMOTE CONTROLLER
XR-M313	CX-LM313	SX-LM313	RC-AAT15(W)

- This Service Manual is the "Revision Publishing" and replace "Simple Manual" XR-M313<U>, (S/M Code No. 09-014-445-0T1).

# aiwa

S/M Code No. 09-016-445-0R1

REVISION

DATA

## SPECIFICATIONS

### TUNER

**FM tuning range:** 87.5 MHz to 108 MHz  
**FM usable sensitivity(IHF):** 13.2 dBf  
**FM antenna terminals:** 75 ohms (unbalanced)  
**AM tuning range:** 530 kHz to 1710 kHz (10 kHz step)  
531 kHz to 1602 kHz (9 kHz step)  
**AM usable sensitivity:** 350  $\mu$ V/m  
**AM antenna:** Loop antenna

### AMPLIFIER

**Power output:** 5.5 W + 5.5 W (50 Hz – 20 kHz, THD less than 1 %, 6 ohms)  
7 W + 7 W (1 kHz, THD less than 10 %, 6 ohms)  
**Total harmonic distortion:** 0.15 % (3.5 W, 1 kHz, 6 ohms, DIN AUDIO)  
**Input:** AUX IN: 600 mV  
**Outputs:** SPEAKERS: 6 ohms or more  
PHONES: 16 ohms or more  
SUPER WOOFER: 0.85 V

### CD PLAYER

**Laser:** Semiconductor laser ( $\lambda = 780$  nm)  
**D/A converter:** 1 bit dual  
**Signal-to-noise ratio:** 85 dB (1 kHz, 0 dB)  
**Harmonic distortion:** 0.08 % (1 kHz, 0 dB)  
**Wow and flutter:** Unmeasurable

### GENERAL

**Power requirements:** 120 V AC, 60 Hz  
**Power consumption:** 22 W  
**Power consumption in standby mode:** With ECO mode on: 1.6 W  
With ECO mode off: 5.4 W  
**Dimensions ( W x H x D):** 166 x 162 x 256.2 mm  
(6  $\frac{5}{8}$  x 6  $\frac{1}{2}$  x 10  $\frac{1}{8}$  in.)  
**Weight:** 2.5 kg (5 lbs 8 oz)

### SPEAKERS

**Speaker system:** 2 way, bass reflex (magnetic shielded)  
**Impedance:** 6 ohms  
**Dimensions (W x H x D):** 166 x 157 x 224.5 mm  
(6  $\frac{5}{8}$  x 6  $\frac{1}{4}$  x 8  $\frac{7}{8}$  in.)  
**Weight:** 0.8 kg (1 lbs 12 oz)

• Design and specifications are subject to change without notice.

## ACCESSORIES / PACKAGE LIST

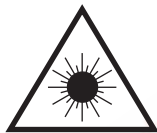
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CL7-903-110		IB, U (ESF) M
2	87-043-115-010		FEEDER-ANT, FM
3	87-A90-030-010		ANT, LOOP AM-NC C
4	8B-CL7-951-010		UNIT, RC-AAT15 (W)

## PROTECTION OF EYES FROM LASER BEAM DURING SERVICING

This set employs laser. Therefore, be sure to follow carefully the instructions below when servicing.

### WARNING!!

WHEN SERVICING, DO NOT APPROACH THE LASER EXIT WITH THE EYE TOO CLOSELY. IN CASE IT IS NECESSARY TO CONFIRM LASER BEAM EMISSION. BE SURE TO OBSERVE FROM A DISTANCE OF MORE THAN 30cm FROM THE SURFACE OF THE OBJECTIVE LENS ON THE OPTICAL PICK-UP BLOCK.



- Caution: Invisible laser radiation when open and interlocks defeated avoid exposure to beam.
- Advarsel: Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

### VAROITUS!

Laiteen Käyttäminen muulla kuin tässä käyttöohjeessa mainitulla tavalla saattaa altistaa käyt-täjän turvallisuusluokan 1 ylittävälle näkymättömälle lasersäteilylle.

### WARNING!

Om apparaten används på annat sätt än vad som specificeras i denna bruksanvisning, kan användaren utsättas för osynlig laserstrålning, som överskrider gränsen för laserklass 1.

### CAUTION

Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

### ATTENTION

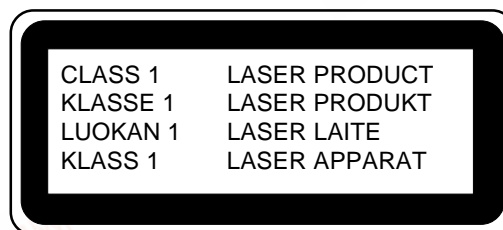
L'utilisation de commandes, réglages ou procédures autres que ceux spécifiés peut entraîner une dangereuse exposition aux radiations.

### ADVARSEL

Usynlig laserstråling ved åbning, når sikkerhedsafbrydere er ude af funktion. Undgå udsættelse for stråling.

This Compact Disc player is classified as a CLASS 1 LASER product.

The CLASS 1 LASER PRODUCT label is located on the rear exterior.



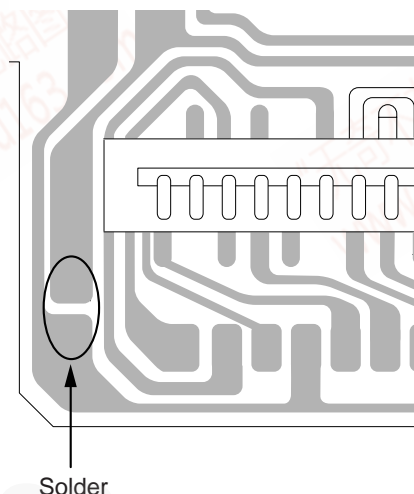
## Precaution to replace Optical block

### (SF-P101NR)

Body or clothes electrostatic potential could ruin laser diode in the optical block. Be sure ground body and workbench, and use care the clothes do not touch the diode.

- 1) After the connection, remove solder shown in right figure.

PICK-UP ASSY PWB



## ELECTRICAL MAIN PARTS LIST

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
IC				C278	87-010-406-080		CAP, ELECT 22-50
	8B-CL7-612-010		C-IC,LC877256V-5V22	C297	87-A12-068-080		CAP,E 470-16 SMG
	87-A21-881-010		IC,LA4636	C298	87-010-405-080		CAP, ELECT 10-50V
	87-A21-245-010		IC,RPM6938-V4	C299	87-010-405-080		CAP, ELECT 10-50V
	87-A20-446-010		C-IC,LA9241ML	C301	87-010-263-080		CAP, ELECT 100-10V
	87-A21-319-010		C-IC,LC78622NE				
	87-A21-093-010		IC,LA6541D	C302	87-010-759-080		C-CAP,U, 0.1-25F
	87-A21-416-040		C-IC,M61500FP	C303	87-016-044-040		CAP,E 100-16 GAS
	87-A21-928-010		IC,LC72131D-N	C304	87-010-759-080		C-CAP,U, 0.1-25F
	87-A20-913-010		IC,LA1837NL	C308	87-010-408-080		CAP, ELECT 47-50V
				C309	87-016-044-040		CAP,E 100-16 GAS
TRANSISTOR				C322	87-010-555-040		CAP,E 100-10 GAS
	87-A30-107-070		C-TR,CMBT5401	C323	87-012-286-080		CAP, U 0.01-25
	89-333-266-080		CHIP TR,2SC3326B	C330	87-012-270-080		CAP, U 470P-50
	87-A30-087-080		C-FET,2SK2158	C360	87-010-496-040		CAP,E 3.3-50 GAS
	87-A30-073-080		C-TR,RT1N 141C	C501	87-A10-189-040		CAP,E 220-10 M 5L
	87-026-610-080		TR,KTC3198GR				
	87-A30-075-080		C-TR,2SA1235F	C503	87-A10-189-040		CAP,E 220-10 M 5L
	87-A30-076-080		C-TR,2SC3052F	C504	87-012-286-080		CAP, U 0.01-25
	87-A30-476-010		TR,KTA1046Y	C515	87-010-369-080		C-CAP,S 0.033-25 K B
	87-A30-256-010		TR,2SD1933	C516	87-010-369-080		C-CAP,S 0.033-25 K B
	87-A30-216-080		TR,2SA933AS (R)	C517	87-016-460-080		C-CAP,S 0.22-16 B
	87-A30-515-080		TR,2SA19790/Y				
	87-A30-287-040		C-TR,DTC114TKA	C518	87-016-460-080		C-CAP,S 0.22-16 B
	87-A30-288-040		C-TR,DTC114YKA	C519	87-016-460-080		C-CAP,S 0.22-16 B
	89-318-155-080		TR,2SC1815GR	C520	87-016-460-080		C-CAP,S 0.22-16 B
	87-026-290-080		TR,DTA124XS	C525	87-010-490-040		CAP, ELECT 0.1-50
	87-026-291-080		TR,DTC124XS	C526	87-010-490-040		CAP, ELECT 0.1-50
	87-A30-432-040		C-TR,DTC124XKA				
	87-A30-072-080		C-TR,RT1P 144C	C545	87-010-831-080		C-CAP,U,0.1-16F
	87-A30-152-080		TR,2SC5395F	C562	87-012-288-080		C-CAP,U 120P-50 J UJ
	87-026-245-080		TR,DTC114ES	C563	87-012-288-080		C-CAP,U 120P-50 J UJ
	89-109-521-080		TR,2SA952K	C581	87-010-400-080		CAP, ELECT 0.47-50V
				C582	87-010-400-080		CAP, ELECT 0.47-50V
DIODE				C585	87-010-401-080		CAP, ELECT 1-50V
	87-020-465-080		DIODE,1SS133 (110MA)	C586	87-010-401-080		CAP, ELECT 1-50V
	87-A40-270-080		C-DIODE,MC2838	C587	87-010-401-080		CAP, ELECT 1-50V
	87-A40-269-080		C-DIODE,MC2836	C588	87-010-401-080		CAP, ELECT 1-50V
	87-A40-509-080		ZENER,MTZJ6.8C	C701	87-010-381-080		CAP, ELECT 330-16V
	87-070-274-080		DIODE,1N4003 SEM				
	87-A40-345-080		ZENER,MTZJ10C	C702	87-010-404-080		CAP, ELECT 4.7-50V
	87-A40-337-080		ZENER,MTZJ 6.8B	C703	87-012-286-080		CAP, U 0.01-25
	87-070-345-080		DIODE,1N4148	C704	87-012-286-080		CAP, U 0.01-25
	87-A40-648-080		ZENERT,MTZJ8.2A	C705	87-A10-592-080		C-CAP,S 0.015-50 J B
	87-A40-313-080		C-DIODE,MC 2840	C706	87-A10-592-080		C-CAP,S 0.015-50 J B
	87-A40-430-080		ZENER,HZS2C2				
	87-070-022-010		DIODE,1N5402 (RECT)	C709	87-012-195-080		C-CAP,U 100P-50CH
MAIN C.B				C711	87-010-260-080		CAP, ELECT 47-25V
C219	87-012-278-080		C-CAP,U 2200P-50 B	C714	87-012-286-080		CAP, U 0.01-25
C220	87-012-278-080		C-CAP,U 2200P-50 B	C717	87-012-286-080		CAP, U 0.01-25
C227	87-010-491-040		CAP,E 0.22-50 GAS	C719	87-012-286-080		CAP, U 0.01-25
C228	87-010-491-040		CAP,E 0.22-50 GAS				
C234	87-010-497-040		CAP,E 4.7-35 GAS	C720	87-012-195-080		C-CAP,U 100P-50CH
C265	87-A10-307-080		CAP,M 0.1-50 J	C721	87-012-176-080		CAP 15P
C266	87-A10-307-080		CAP,M 0.1-50 J	C722	87-012-176-080		CAP 15P
C267	87-A10-307-080		CAP,M 0.1-50 J	C723	87-012-274-080		CHIP CAP,U 1000P-50B
C268	87-A10-307-080		CAP,M 0.1-50 J	C725	87-012-274-080		CHIP CAP,U 1000P-50B
C270	87-010-248-080		CAP, ELECT 220-10V				
C271	87-010-260-080		CAP, ELECT 47-25V	C727	87-010-196-080		CHIP CAPACITOR,0.1-25
C272	87-010-378-080		CAP, ELECT 10-16V	C728	87-010-248-080		CAP, ELECT 220-10V
C273	87-010-388-080		CAP ELECT 1000-25V SME	C729	87-012-274-080		CHIP CAP,U 1000P-50B
C274	87-010-831-080		C-CAP,U,0.1-16F	C731	87-012-286-080		CAP, U 0.01-25
C275	87-010-981-040		CAP,E 22-35 5L SRE	C733	87-010-987-080		C-CAP,S 1500P-50 CH
C276	87-010-981-040		CAP,E 22-35 5L SRE				
C277	87-010-406-080		CAP, ELECT 22-50	C734	87-010-987-080		C-CAP,S 1500P-50 CH
				C735	87-010-987-080		C-CAP,S 1500P-50 CH
				C736	87-010-987-080		C-CAP,S 1500P-50 CH
				C737	87-A10-592-080		C-CAP,S 0.015-50 J B
				C738	87-A10-592-080		C-CAP,S 0.015-50 J B
				C751	87-012-365-080		C-CAP,S 0.027-25VBK
				C752	87-012-365-080		C-CAP,S 0.027-25VBK
				C756	87-012-286-080		CAP, U 0.01-25
				C757	87-012-188-080		C-CAP,U 47P-50 CH
				C758	87-012-167-080		C-CAP,U 5P-50 CH
				C763	87-010-829-080		CAP, U 0.047-16
				C764	87-012-337-080		C-CAP,U 56P-50 CH
				C765	87-012-286-080		CAP, U 0.01-25
				C768	87-012-286-080		CAP, U 0.01-25
				C769	87-010-260-080		CAP, ELECT 47-25V

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C770	87-010-829-080		CAP, U 0.047-16	C201	87-012-184-080		C-CAP,U 33P-50 CH
C771	87-010-383-080		CAP, ELECT 33-25V	C203	87-A11-073-080		CAP,TC U 22P-50 J CH
C772	87-010-829-080		CAP, U 0.047-16	C204	87-010-787-080		CAP, U 0.022-25
C773	87-010-196-080		CHIP CAPACITOR,0.1-25	C205	87-010-831-080		C-CAP,U,0.1-16F
C774	87-010-555-040		CAP,E 100-10 GAS	C206	87-010-831-080		C-CAP,U,0.1-16F
C775	87-010-497-040		CAP,E 4.7-35 GAS	C221	87-012-274-080		CHIP CAP,U 1000P-50B
C776	87-012-286-080		CAP, U 0.01-25	C222	87-010-498-040		CAP,E 10-16 GAS
C777	87-010-493-040		CAP,E 0.47-50 GAS	C241	87-010-493-040		CAP,E 0.47-50 GAS
C778	87-010-494-040		CAP,E 1-50 GAS	C242	87-A10-189-040		CAP,E 220-10
C779	87-010-494-040		CAP,E 1-50 GAS	C243	87-010-831-080		C-CAP,U,0.1-16F
C780	87-010-196-080		CHIP CAPACITOR,0.1-25	CN101	87-A60-077-010		CONN,10P H 9604S-10F
C781	87-010-405-080		CAP, ELECT 10-50V	CN102	87-A60-076-010		CONN,12P H 9604S-12F
C782	87-010-405-080		CAP, ELECT 10-50V	CN121	87-A60-078-010		CONN,09P H 9604S-09F
C783	87-012-286-080		CAP, U 0.01-25	CN301	87-A60-666-010		CONN,2P H 2MM JMT
C784	87-012-286-080		CAP, U 0.01-25	D151	87-A92-077-010		LED, SMLU1BE16C-SLF73 BLU/UMB
C785	87-010-401-080		CAP, ELECT 1-50V	D152	87-A92-077-010		LED, SMLU1BE16C-SLF73 BLU/UMB
C786	87-010-401-080		CAP, ELECT 1-50V	D153	87-A92-078-010		LED, SELU1D10CXM-SLF38 GR
C789	87-012-275-080		C-CAP,U 1200P-50 B	D154	87-A92-078-010		LED, SELU1D10CXM-SLF38 GR
C790	87-012-275-080		C-CAP,U 1200P-50 B	D263	87-A40-647-010		LED, SEL2210R RED
C791	87-010-405-080		CAP, ELECT 10-50V	FFC101	88-910-201-110		FF-CABLE,10P 1.25 200MM
C793	87-012-273-080		C-CAP,U 820P-50 B	FFC107	88-912-201-110		FF-CABLE,12P 1.25
C794	87-010-406-080		CAP, ELECT 22-50	FFC121	88-909-181-110		FF-CABLE,9P 1.25 180MM
C795	87-010-596-080		CAP, S 0.047-16	LCD101	8B-CL7-611-010		LCD, AIW4269-30PIN
C796	87-010-403-080		CAP, ELECT 3.3-50V	S301	87-A91-704-080		SW,TACT EVQ 214 05R
C799	87-010-829-080		CAP, U 0.047-16	S302	87-A91-704-080		SW,TACT EVQ 214 05R
C812	87-012-286-080		CAP, U 0.01-25	S303	87-A91-704-080		SW,TACT EVQ 214 05R
C820	87-010-260-080		CAP, ELECT 47-25V	S304	87-A91-704-080		SW,TACT EVQ 214 05R
C821	87-012-286-080		CAP, U 0.01-25	S305	87-A91-704-080		SW,TACT EVQ 214 05R
C822	87-012-286-080		CAP, U 0.01-25	S306	87-A91-704-080		SW,TACT EVQ 214 05R
C823	87-012-286-080		CAP, U 0.01-25				
C828	87-010-196-080		CHIP CAPACITOR,0.1-25	CD C.B			
C829	87-010-196-080		CHIP CAPACITOR,0.1-25	C401	87-015-697-040		CAP,E 3.3-50 7L
C959	87-010-196-080		CHIP CAPACITOR,0.1-25	C402	87-012-286-080		CAP, U 0.01-25
C960	87-010-196-080		CHIP CAPACITOR,0.1-25	C403	87-010-263-040		CAP,E 100-10
C961	87-012-170-080		C-CAP,U 8P-50 CH	C404	87-010-248-040		CAP,E 220-10 SME
C963	87-010-196-080		CHIP CAPACITOR,0.1-25	C405	87-012-286-080		CAP, U 0.01-25
C996	87-010-831-080		C-CAP,U,0.1-16F	C406	87-010-374-040		CAP,E 47-10
C999	87-010-385-080		CAP,E 220-25 M SME	C407	87-012-274-080		CHIP CAP,U 1000P-50B
CF801	87-008-261-010		FILTER, SFE10.7MA5-A	C408	87-010-787-080		CAP, U 0.022-25
CF802	87-008-261-010		FILTER, SFE10.7MA5-A	C409	87-010-248-040		CAP,E 220-10 SME
CN101	87-A60-058-010		CONN,10P V 9604S-10C	C410	87-010-263-040		CAP,E 100-10
CN102	87-A60-060-010		CONN,07P V 9604S-07C	C412	87-015-695-040		E/CAP 1UF 50V TAPG
CN107	87-A60-056-010		CONN,12P V 9604S-12C	C414	87-015-699-040		CAP,E 10-50 7L
CN301	87-A60-989-010		CONN,06P V BLK TAC-L06X-A3	C415	87-010-831-080		C-CAP,U,0.1-16F
CNA104	8B-CL7-641-010		CONN ASSY,3P V AUX	C416	87-015-692-040		E/CAP 0.22-50V TAPG
CNA110	8B-CL7-644-010		CONN ASSY,4P V WO	C417	87-012-268-080		C-CAP,U 330P-50 B
CNA302	8B-CL7-642-010		CONN ASSY,3P V RELAY	C418	87-010-785-080		C-CAP,U0.015-25BK
FFC102	88-907-221-110		FF-CABLE,7P 1.25 220MM	C420	87-A11-070-080		C-CAP,U 0.033-16 K B
FFE801	A8-8ZA-194-030		8ZA-1 FEMUMM	C422	87-012-280-080		CAP, U 3300P-50
J201	87-A60-420-010		JACK,3.5 ST (MSC)	C423	87-A10-504-080		C-CAP,U 0.047-16 K B
J202	87-A60-659-010		TERMINAL,SPKR 4P HSP-134V-05Z	C424	87-016-460-080		C-CAP,S 0.22-16 B
J801	87-A60-702-010		TERMINAL,ANT 4P CJ-9036	C425	87-012-272-080		C-CAP,U 680P-50 B
L771	87-A50-266-010		COIL,FM DET-2N(TOK)	C426	87-A10-201-080		C-CAP,S0.33-16 KB
L772	87-A91-110-010		FLTR,PCFJZH-450 (TOK)	C427	87-012-195-080		C-CAP,U 100P-50CH
L981	8Z-ZA1-667-010		COIL,AM PACK 4F(TOK)	C429	87-012-282-080		CAP, U 4700P-50
△ PR601	87-A90-246-080		PROTECTOR,0.25A 60V	C430	87-012-199-080		CAP 220P
R368	87-A00-261-080		RES,M/F 0.56-1W J	C431	87-010-491-040		CAP,E 0.22-50 GAS
X721	87-A70-306-010		VIB,XTAL 4.500MHZ CSA-309ST	C432	87-010-553-040		CAP,E 47-16 GAS
FRONT C.B				C433	87-010-494-040		CAP,E 1-50 GAS
C150	87-010-555-040		CAP,E 100-10 GAS	C434	87-012-280-080		CAP, U 3300P-50
C151	87-010-555-040		CAP,E 100-10 GAS	C435	87-012-286-080		CAP, U 0.01-25
C152	87-010-555-040		CAP,E 100-10 GAS	C436	87-010-374-040		CAP,E 47-10
C153	87-010-831-080		C-CAP,U,0.1-16F	C437	87-015-698-040		CAP,E 4.7-50 7L
C154	87-010-831-080		C-CAP,U,0.1-16F	C438	87-A10-260-080		C-CAP,U 0.1-16 K B
C155	87-010-831-080		C-CAP,U,0.1-16F	C439	87-012-274-080		CHIP CAP,U 1000P-50B
C156	87-010-831-080		C-CAP,U,0.1-16F	C440	87-012-162-080		C-CAP,U 1P-50 CK
C157	87-010-831-080		C-CAP,U,0.1-16F	C441	87-012-286-080		CAP, U 0.01-25
C158	87-010-831-080		C-CAP,U,0.1-16F	C442	87-012-178-080		C-CAP,U 18P-50 CH
				C443	87-012-195-080		C-CAP,U 100P-50CH

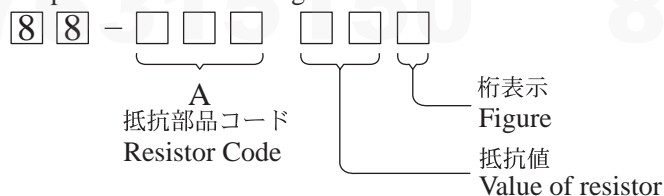


REF. NO.	PART NO.	KANRI NO.	DESCRIPTION	REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
C444	87-012-195-080		C-CAP,U 100P-50CH	POWER C.B			
C445	87-010-831-080		C-CAP,U,0.1-16F	C101	87-010-780-090		CAP, ELECT 6800-25V
C446	87-010-831-080		C-CAP,U,0.1-16F	C903	87-018-209-080		CAP, CER 0.1-50V
C447	87-010-831-080		C-CAP,U,0.1-16F	C904	87-018-209-080		CAP, CER 0.1-50V
C448	87-012-182-080		C-CAP,U 27P-50 CH	C911	87-018-209-080		CAP, CER 0.1-50V
				C912	87-018-209-080		CAP, CER 0.1-50V
C449	87-012-195-080		C-CAP,U 100P-50CH				
C450	87-012-270-080		CAP, U 470P-50	CN904	87-A61-004-010		CONN,06P H BLK TAC-L06P-A3
C451	87-012-199-080		CAP 220P	CNA903	8B-CL7-643-010		CONN ASSY,2P V AC
C455	87-010-263-040		CAP,E 100-10				
C456	87-012-195-080		C-CAP,U 100P-50CH				
				KEY C.B			
C457	87-012-176-080		CAP 15P	CNA301	88-803-021-690		CONN ASSY,2P
C458	87-012-176-080		CAP 15P	S321	87-A91-704-080		SW,TACT EVQ 214 05R
C459	87-010-263-040		CAP,E 100-10	S322	87-A91-704-080		SW,TACT EVQ 214 05R
C460	87-015-819-080		CAPACITOR,0.01	S331	87-A92-046-010		SW,TACT 1-5 SKQUCAA010
C461	87-012-286-080		CAP, U 0.01-25				
C462	87-010-248-040		CAP,E 220-10 SME	AUX C.B			
C463	87-A11-132-080		CAP,TC U 0.01-50 K B	C207	87-A11-132-080		CAP,TC U 0.01-50 K B
C465	87-010-404-040		CAP,E 4.7-50 SME	CN105	87-A60-620-010		CONN,3P V 2MM JMT
C467	87-010-263-040		CAP,E 100-10	CN111	81-754-629-010		CONNECTOR, 2P
C469	87-012-197-080		C-CAP,U 150P-50 CH	CN112	81-754-629-010		CONNECTOR, 2P
				CN113	87-A60-621-010		CONN,4P V 2MM JMT
C470	87-015-691-040		CAP,E0.1-50 SRA				
C471	87-010-831-080		C-CAP,U,0.1-16F	J101	87-099-802-010		JACK,PIN 3P BRW
C472	87-010-831-080		C-CAP,U,0.1-16F				
C473	87-010-831-080		C-CAP,U,0.1-16F				
C474	87-010-831-080		C-CAP,U,0.1-16F				
				DOOR C.B			
C475	87-012-286-080		CAP, U 0.01-25	CNA502	88-803-022-290		CONN ASSY,2P 220MM
C476	87-010-236-080		CAP,E 1000-10 SME	S401	87-036-109-010		PUSH SWITCH
C477	87-012-286-080		CAP, U 0.01-25				
C478	87-010-263-040		CAP,E 100-10				
C479	87-012-286-080		CAP, U 0.01-25				
				CD MOTOR C.B			
C480	87-010-221-040		CAP,E 470-10 SME	M1	S0-M10-A09-700		MOTOR SLED ASSY
C481	87-010-405-040		CAP,E 10-50	M2	9X-262-576-910		MOTOR GEAR ASSY
C482	87-010-405-040		CAP,E 10-50	PIN3	S2-369-750-000		PLUG,6P
C489	87-010-831-080		C-CAP,U,0.1-16F	SW1	S4-S13-A01-600		SW,LEAF
C490	87-010-831-080		C-CAP,U,0.1-16F				
				LDSP L C.B			
C491	87-010-260-040		CAP,E 47-25 SME	C101	87-A11-144-080		CAP,TC U 0.1-50 K B
C492	87-010-831-080		C-CAP,U,0.1-16F	CN101	87-A60-666-010		CONN,2P H 2MM JMT
C493	87-012-286-080		CAP, U 0.01-25	D101	87-A40-678-010		LED,SELU1E10CXM BLUE-DEF
C494	87-A11-132-080		CAP,TC U 0.01-50 K B				
C495	87-A11-116-080		CAP,TC U 1500P				
				LDSP R C.B			
C496	87-010-831-080		C-CAP,U,0.1-16F	C102	87-A11-144-080		CAP,TC U 0.1-50 K B
C497	87-010-382-040		CAP,E 22-25 SME	CN102	87-A60-666-010		CONN,2P H 2MM JMT
C498	87-012-286-080		C-CAP,U 0.01-25 K B	D102	87-A40-678-010		LED,SELU1E10CXM BLUE-DEF
CN401	87-A60-424-010		CONN,16P V TOC-B				
CN403	87-A60-078-010		CONN,09P H 9604S-09F				
CN404	87-A60-080-010		CONN,07P H 9604S-07F				
CN502	87-A60-619-010		CONN,2P V 2MM JMT				
CNA402	88-805-061-020		CONN ASSY,6P				
FFC401	8B-CL7-647-010		FF-CABLE,16P 1 100MM				
JW444	87-003-098-080		COIL,2.2UH				
L401	87-003-102-080		COIL, 10UH				
L404	87-003-152-080		COIL, 100UH				
SFR430	87-024-437-080		SFR100K,RH063EC				
X401	81-592-641-010		VIB,CER 16.93MHZ				
PT C.B							
C912	87-010-387-080		CAP,E 470-25 SME				
C923	87-010-405-080		CAP, ELECT 10-50V				
C924	87-A10-479-080		CAP,CER 2200P-250 M E KH				
CN901	87-099-043-010		CONN 2P EH				
CN902	87-A60-620-010		CONN,3P V 2MM JMT				
PR905	87-A90-210-080		FUSE,7A 125V 251				
PR910	87-A91-276-080		FUSE,125MA 125V F 251				
PT901	8B-CL7-604-010		PT,U				
PT905	8Z-NF8-661-010		PT,SUB ZNF-8(U)				
RY904	87-A91-390-010		RELAY,AC12V G5PA-1-8				
T905	87-A60-317-010		TERMINAL, 1P MSC				
T906	87-A60-317-010		TERMINAL, 1P MSC				

○チップ抵抗部品コード／CHIP RESISTOR PART CODE

チップ抵抗部品コードの成り立ち

Chip Resistor Part Coding



チップ抵抗  
Chip resistor

容量 Wattage	種類 Type	許容誤差 Tolerance	記号 Symbol	寸法／Dimensions (mm)				抵抗コード Resistor Code : A
				外形／Form	L	W	t	
1/16W	1005	± 5%	CJ		1.0	0.5	0.35	104
1/16W	1608	± 5%	CJ		1.6	0.8	0.45	108
1/10W	2125	± 5%	CJ		2	1.25	0.45	118
1/8W	3216	± 5%	CJ		3.2	1.6	0.55	128

TRANSISTOR ILLUSTRATION



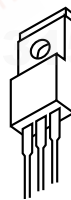
E C B

2SA933AS (R)  
KTC3198GR



B C E

2SA1979O/Y  
DTA124XS  
DTC124XS



B C E

2SD1933



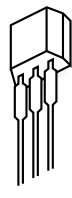
B C E

KTA1046Y



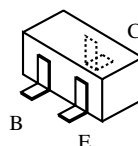
B C E

2SA952K  
2SC1815GR



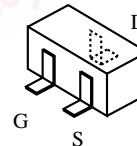
E C B

2SC5395F  
DTC114ES



B C E

2SA1235F  
2SC3052F  
2SC3326B  
CMBT5401  
DTC114TKA

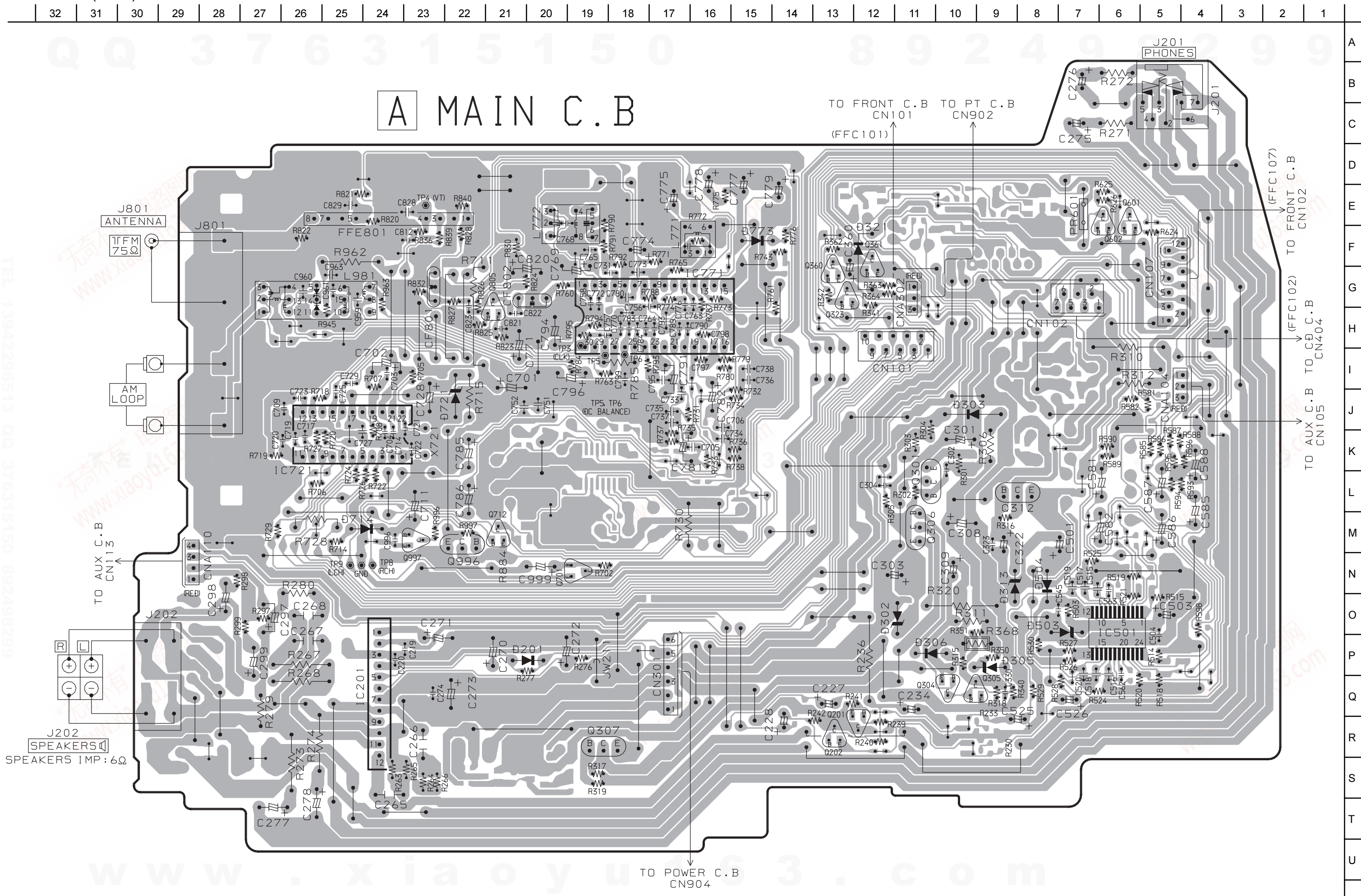


G S D

DTC114YKA  
DTC124XKA  
RT1N141C  
RT1P144C

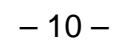
2SK2158

WIRING - 1 (MAIN)



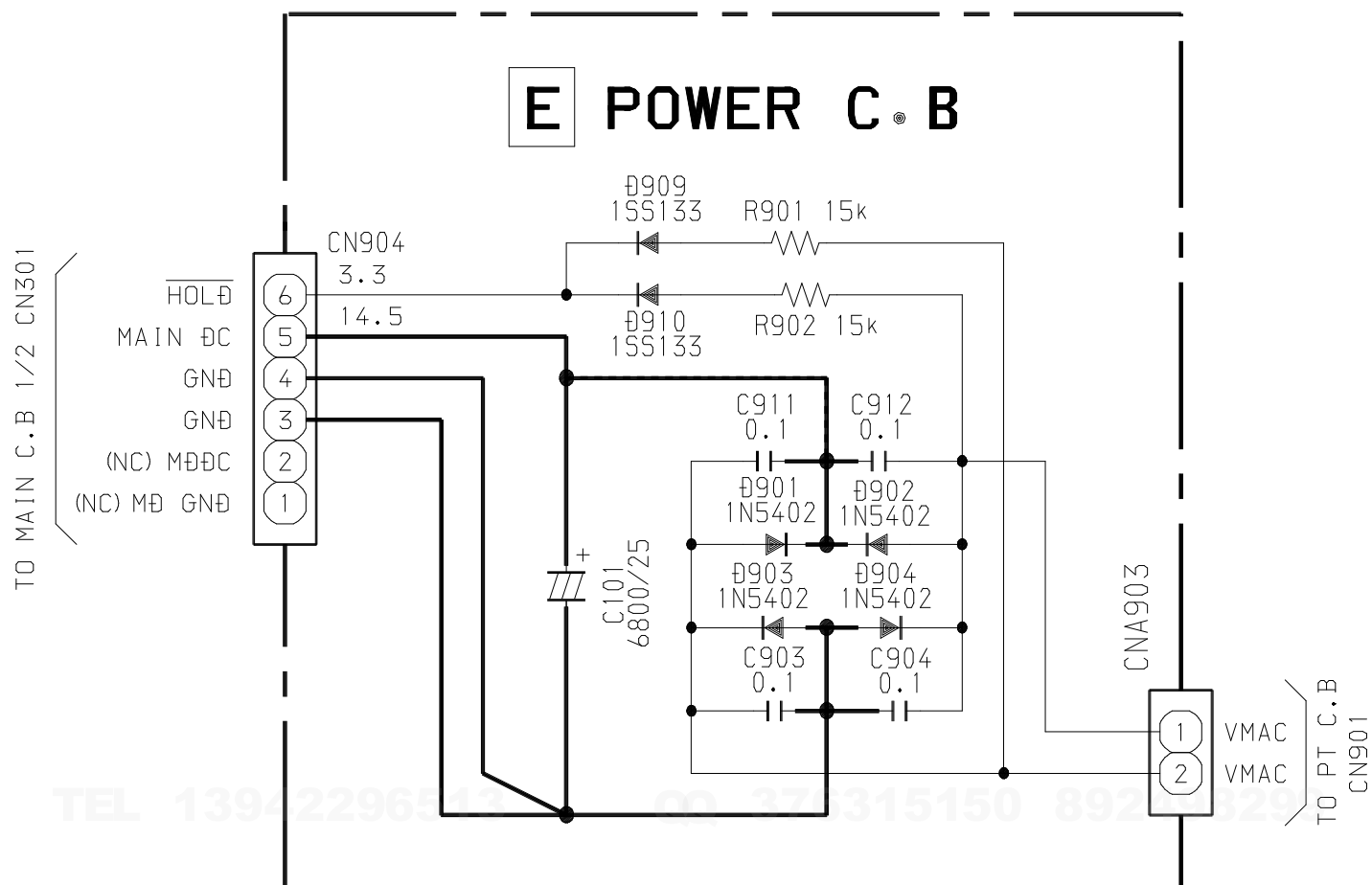






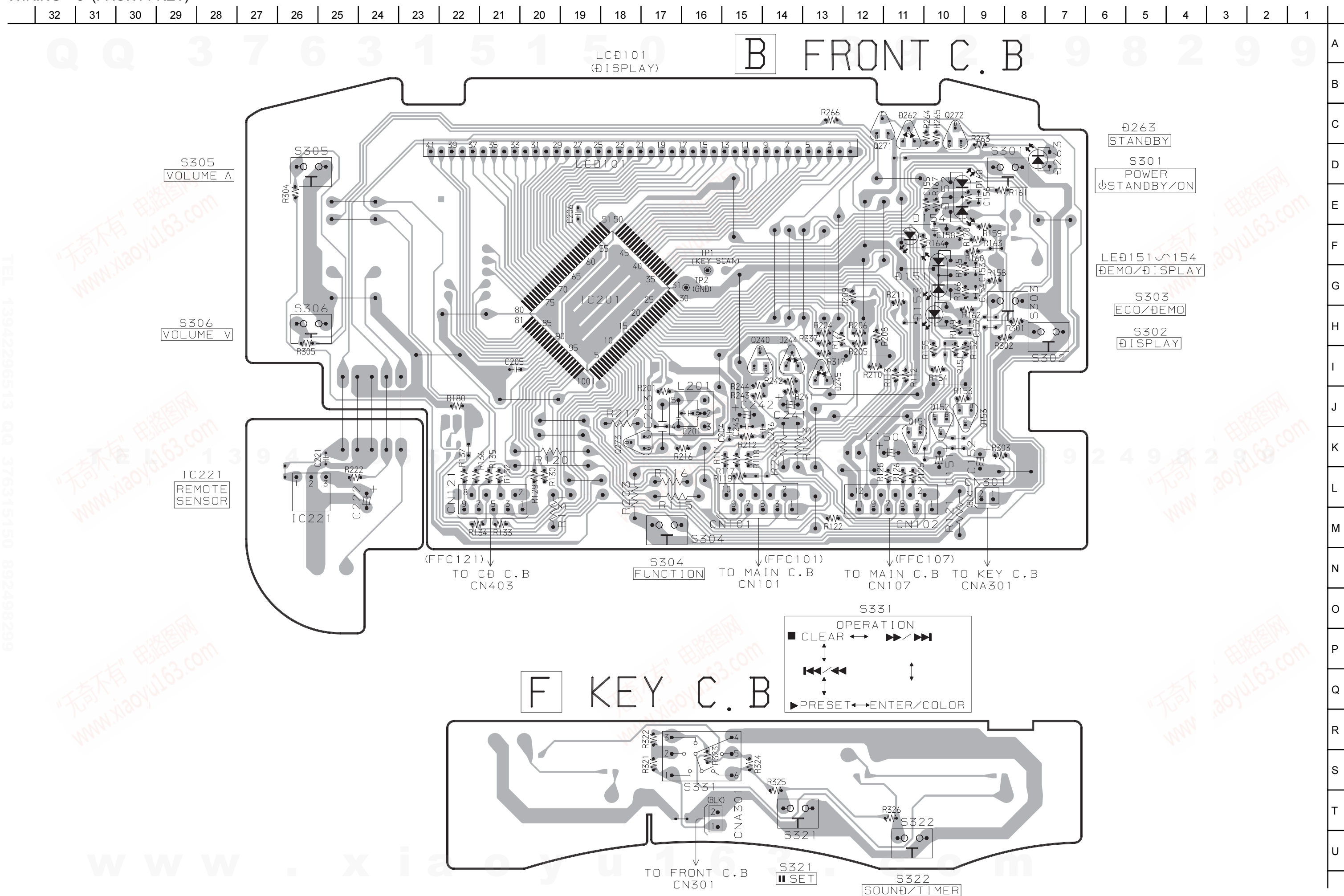


SCHEMATIC DIAGRAM – 3 (POWER)

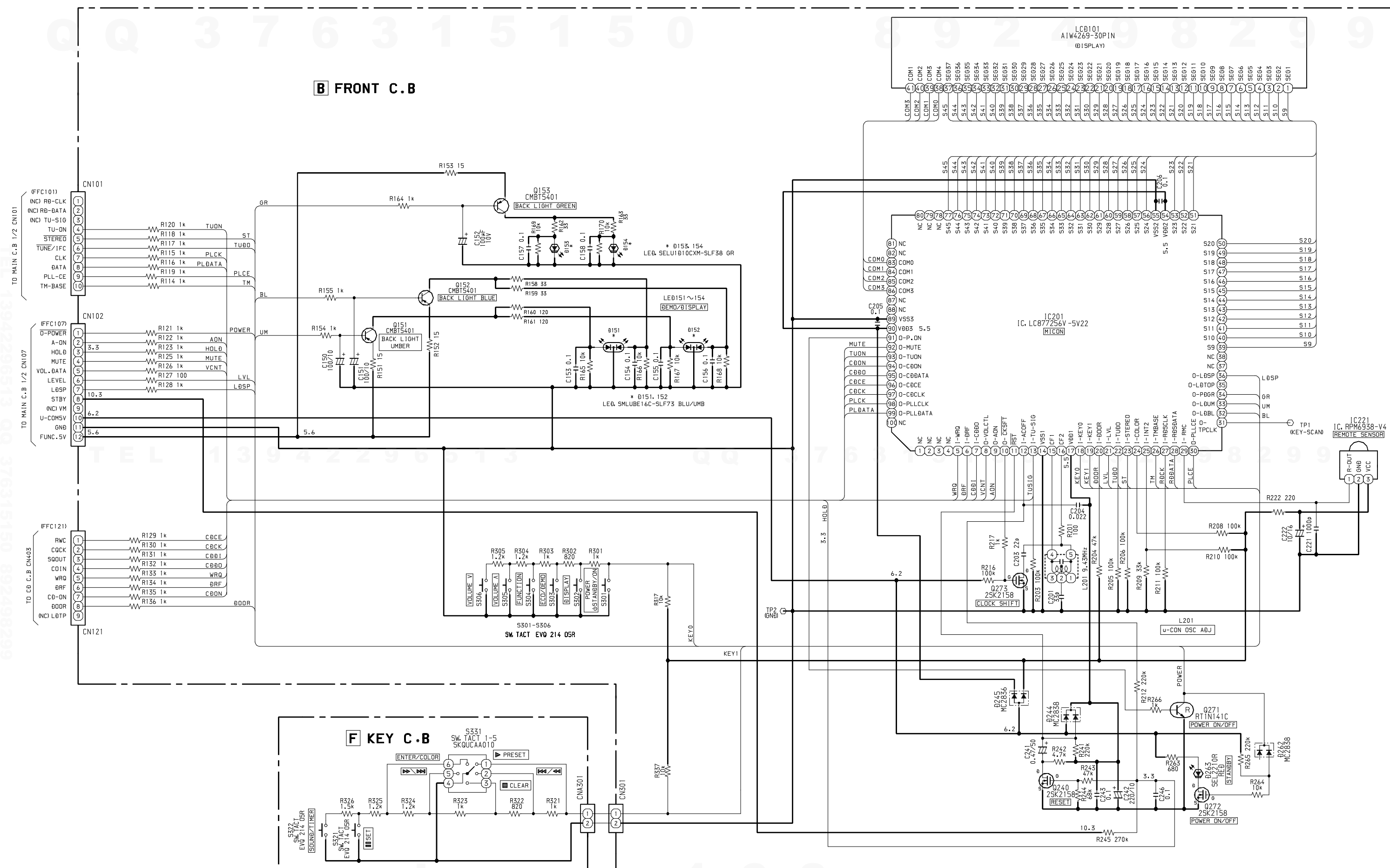


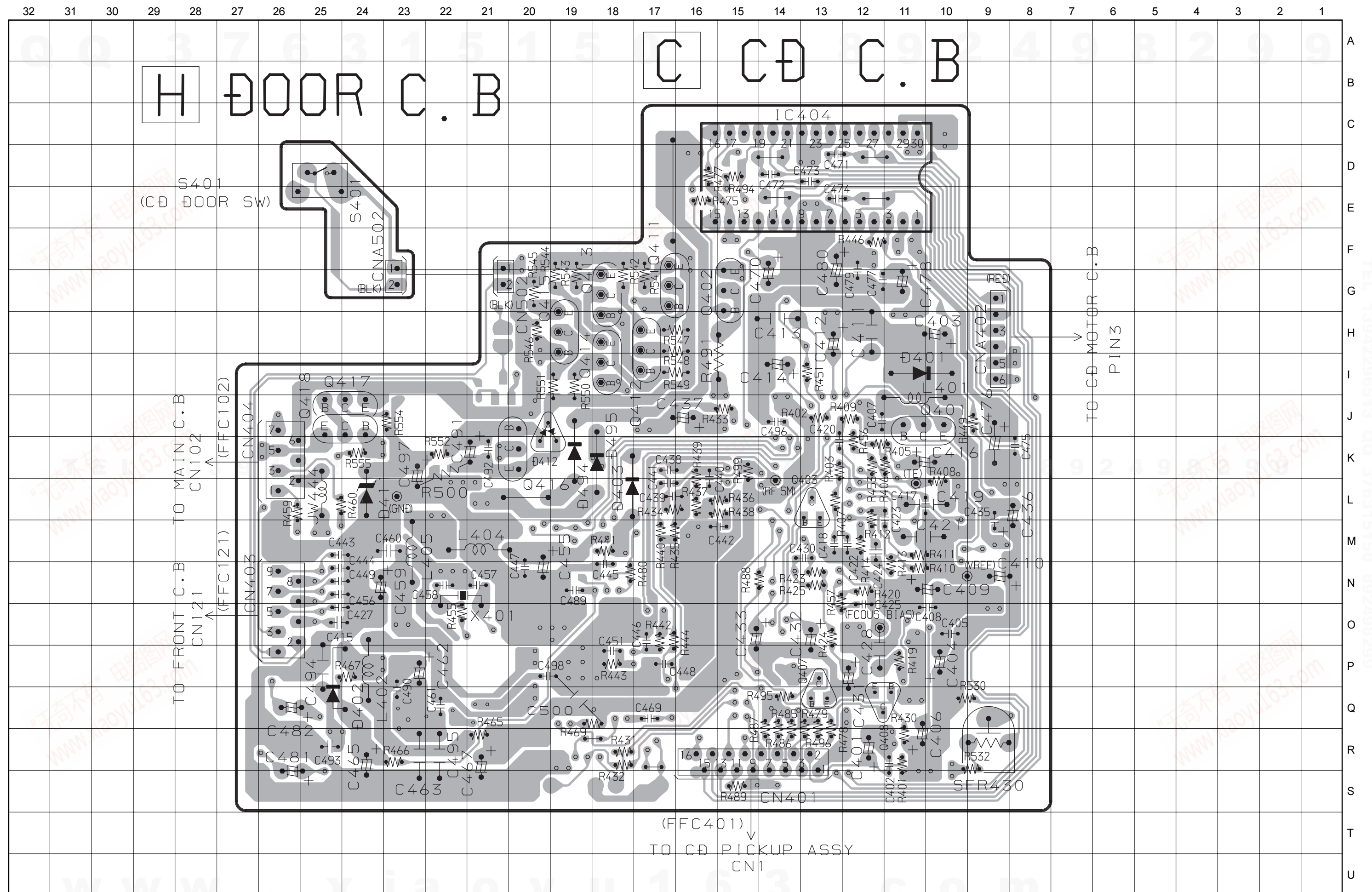


### WIRING – 3 (FRONT / KEY)



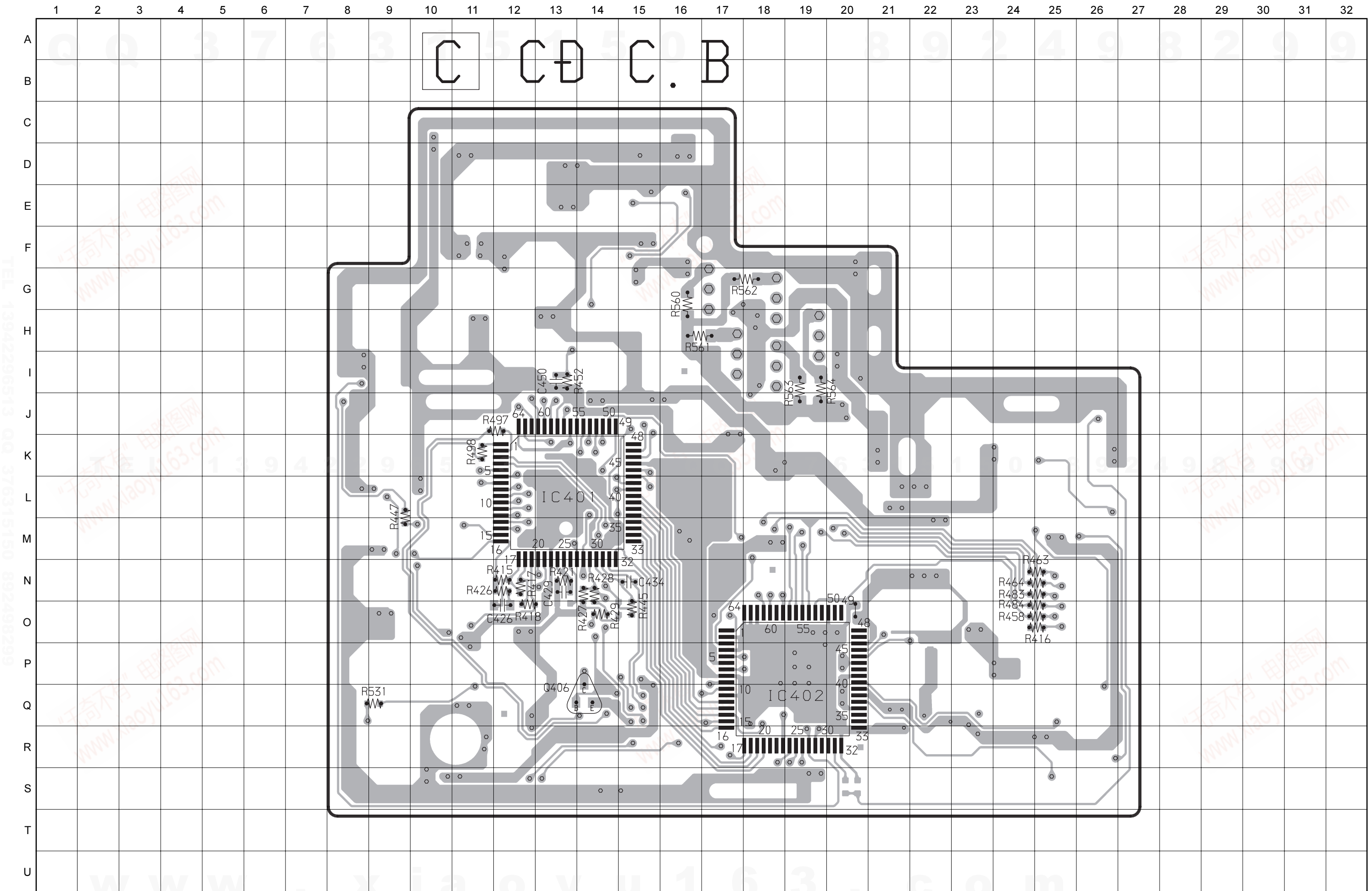
**SCHEMATIC DIAGRAM – 4 (FRONT / KEY)**





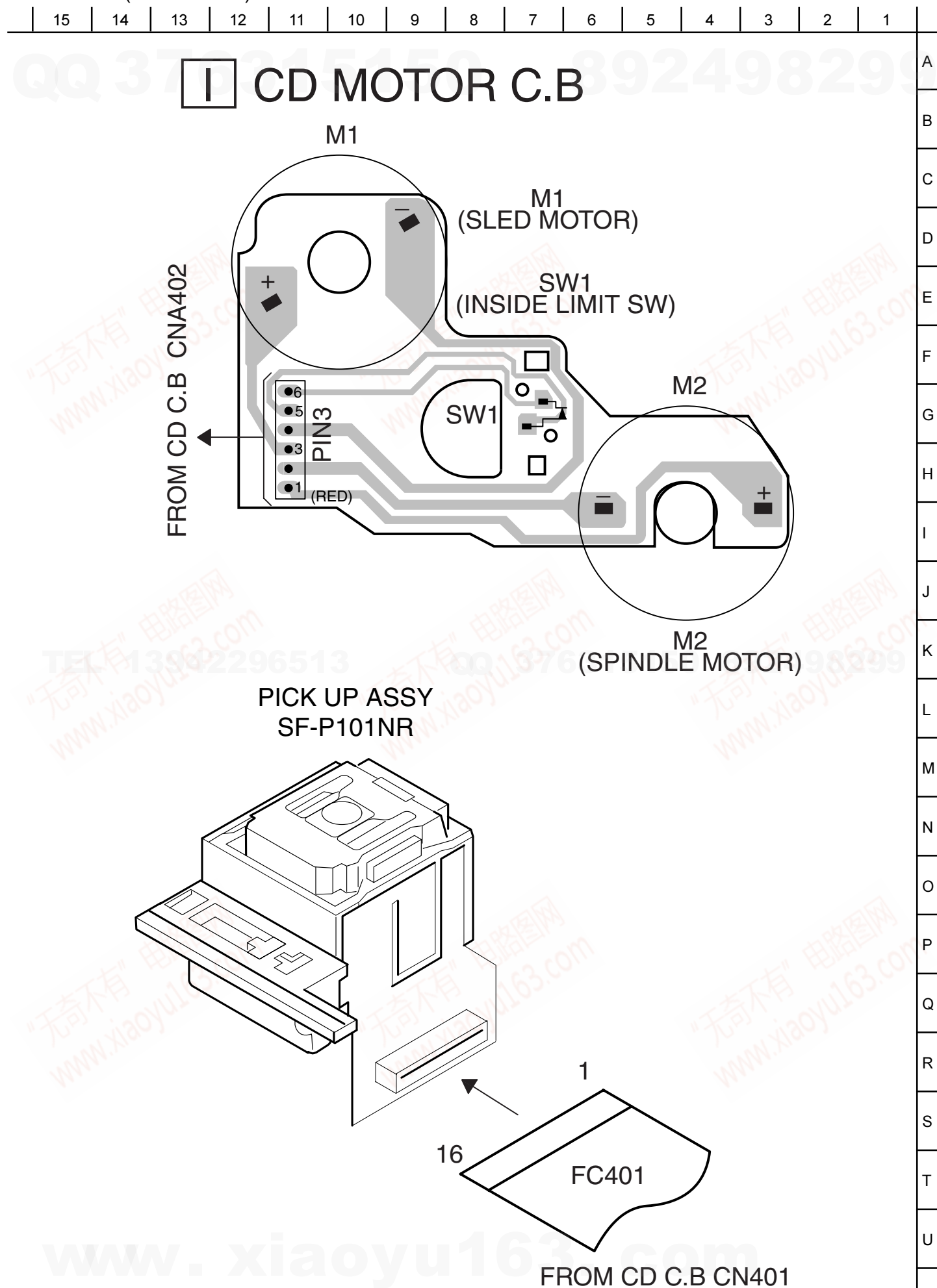


WIRING-4 (CD) <2/2>

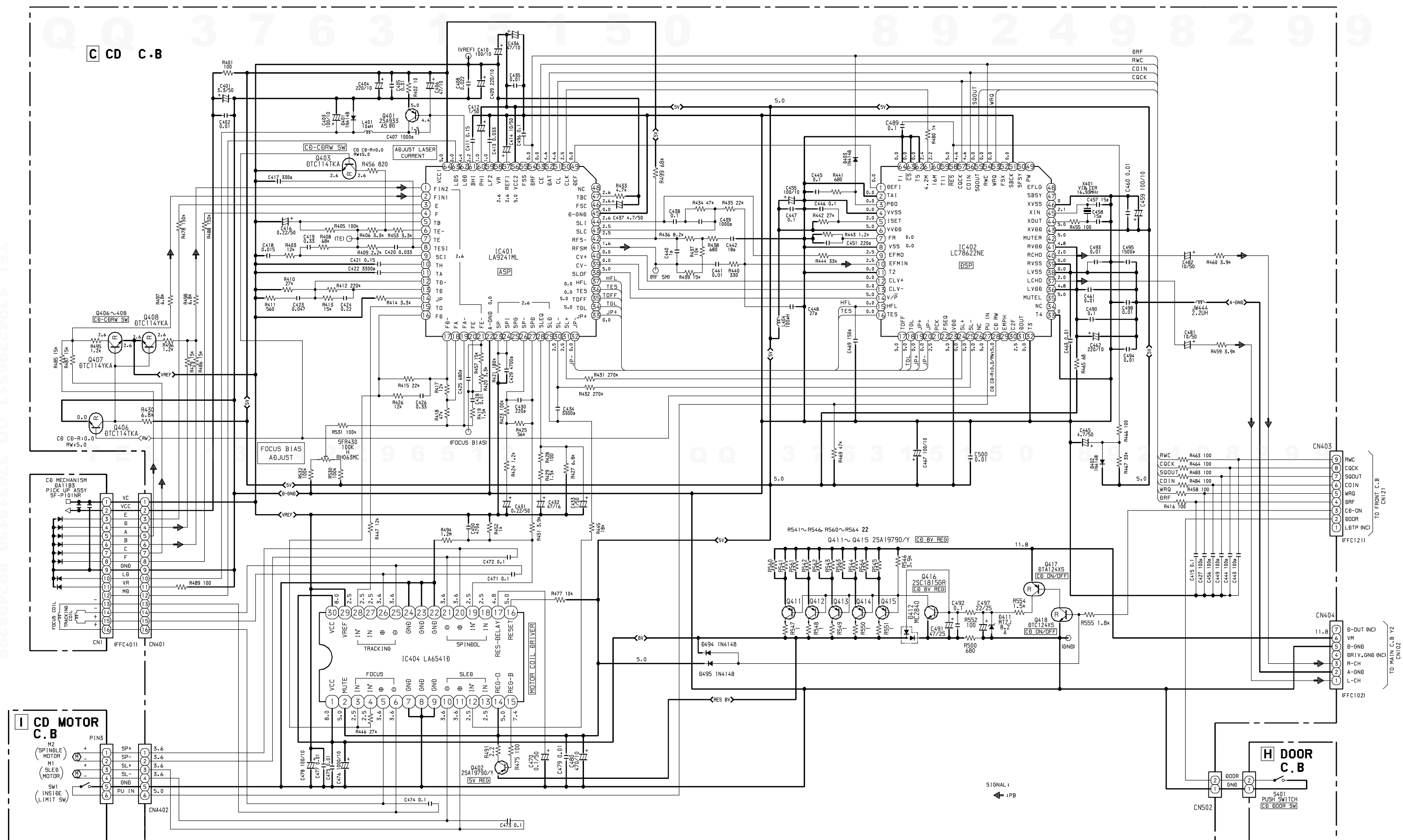




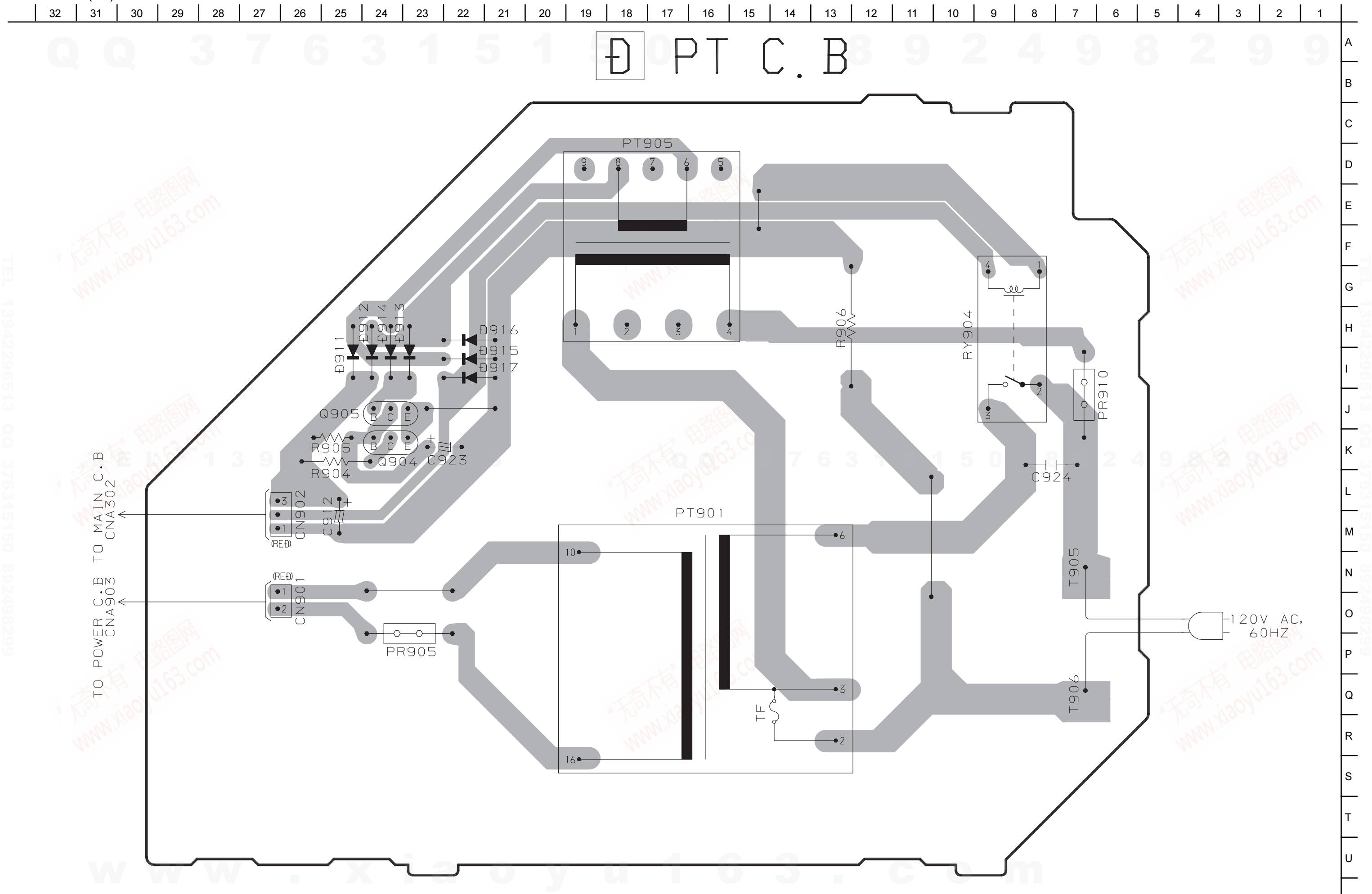
# WIRING – 5 (CD MOTOR)



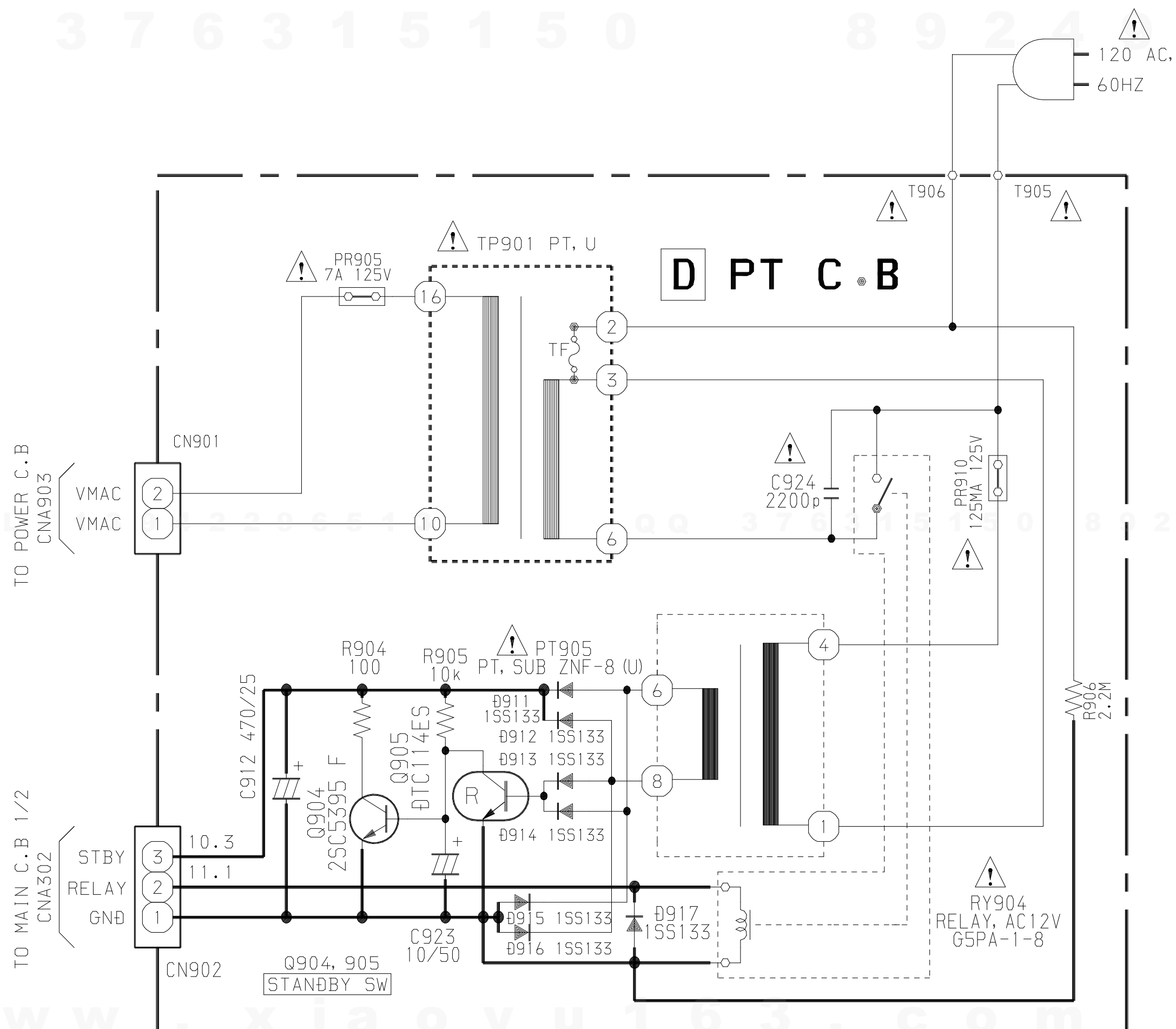
SCHEMATIC DIAGRAM - 5 (CD / DOOR / CD MOTOR)



WIRING-6 (PT)



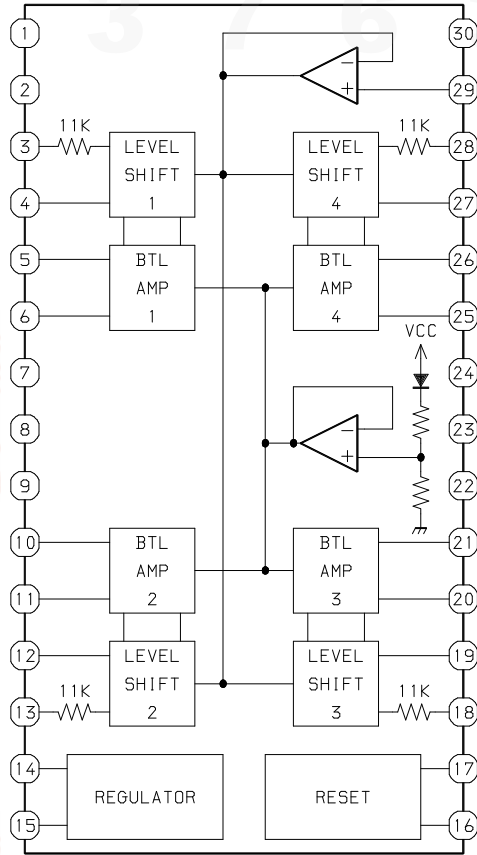
SCHEMATIC DIAGRAM – 6 (PT)



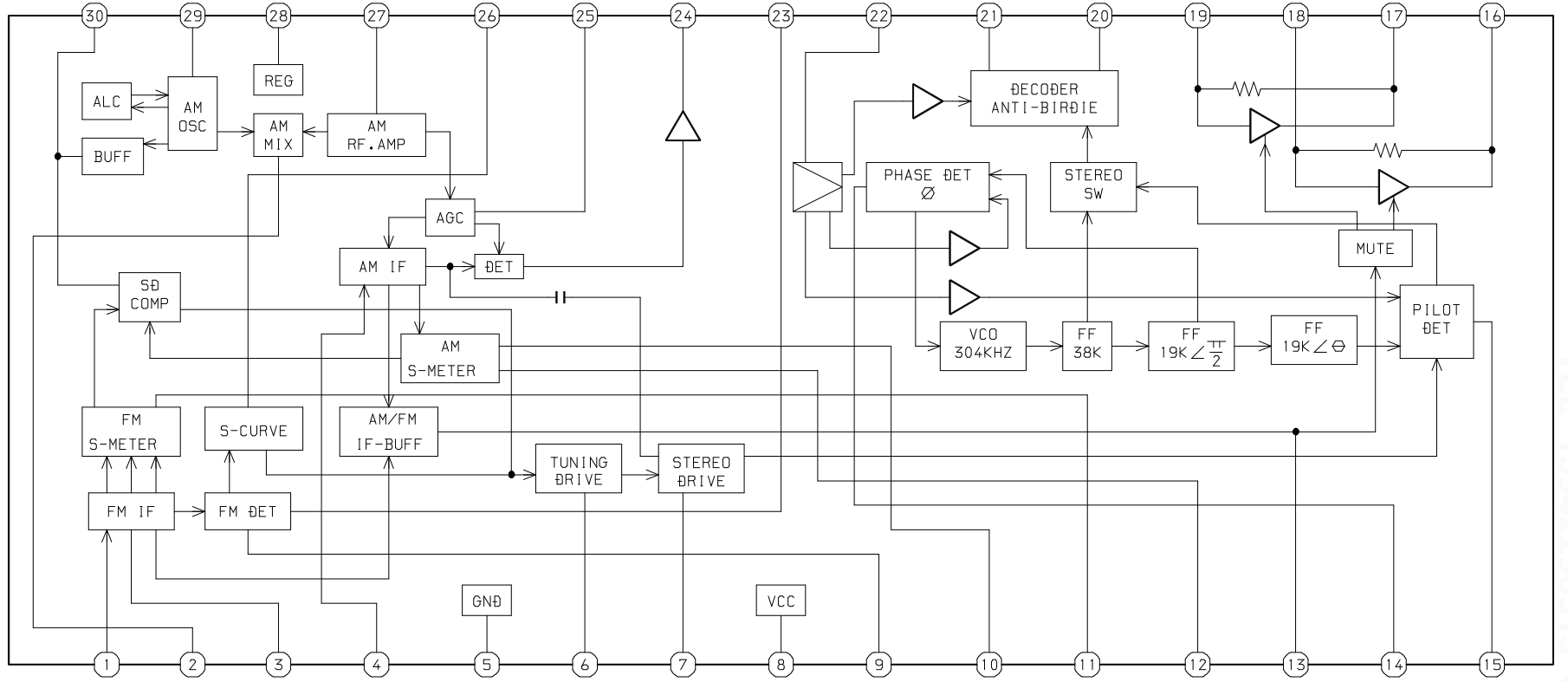


IC BLOCK DIAGRAM

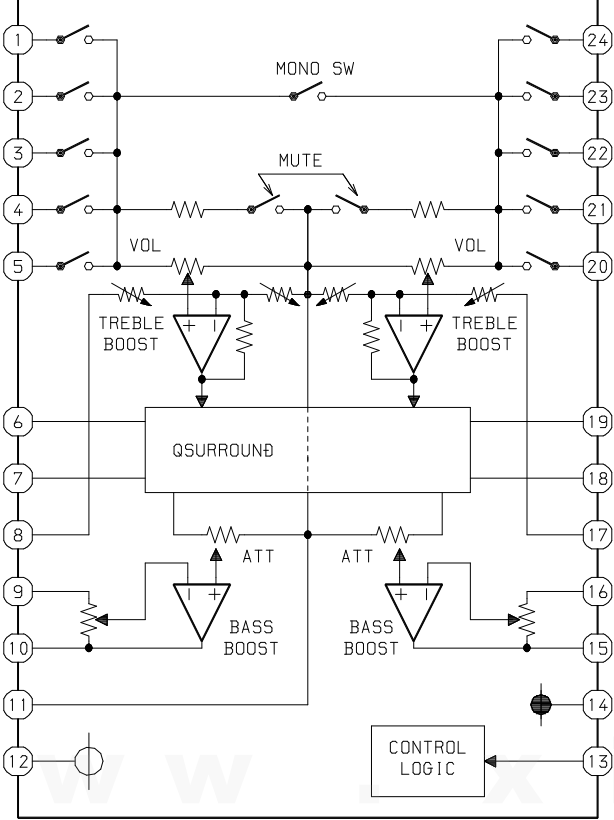
IC, LA6541D



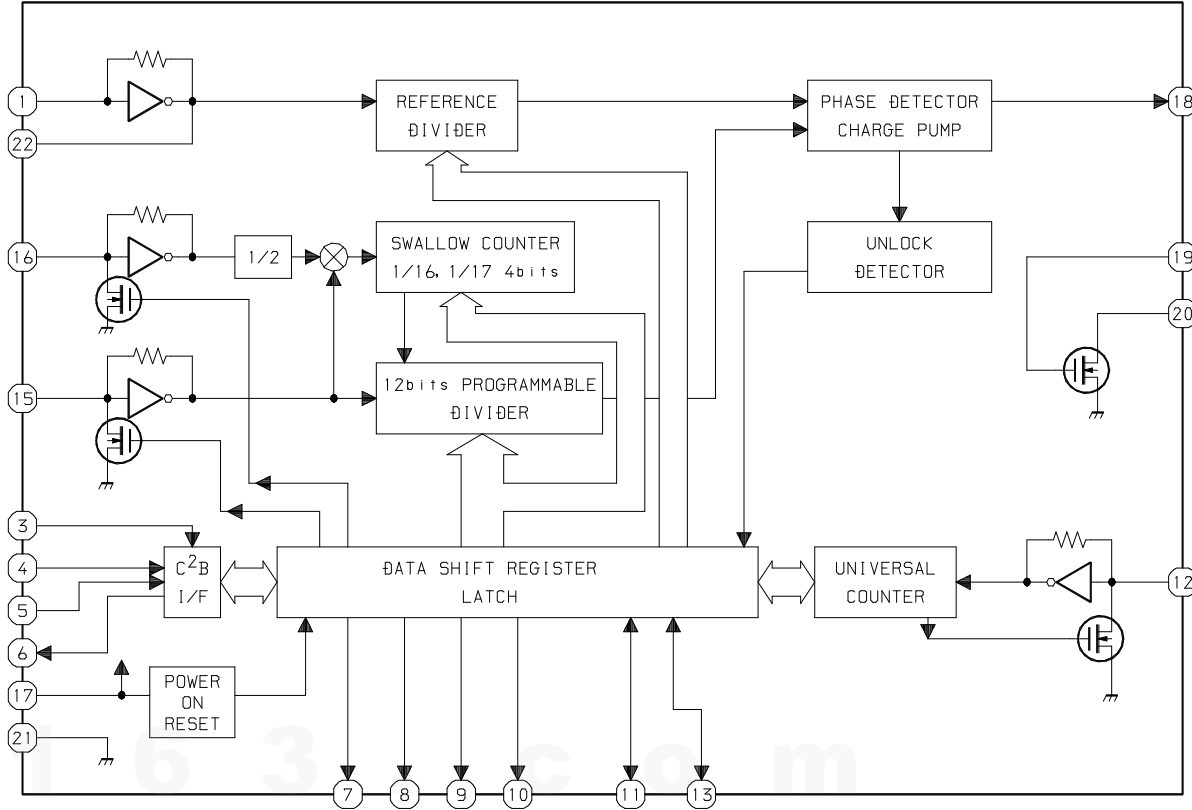
IC, LA1837NL



IC, M61500FP



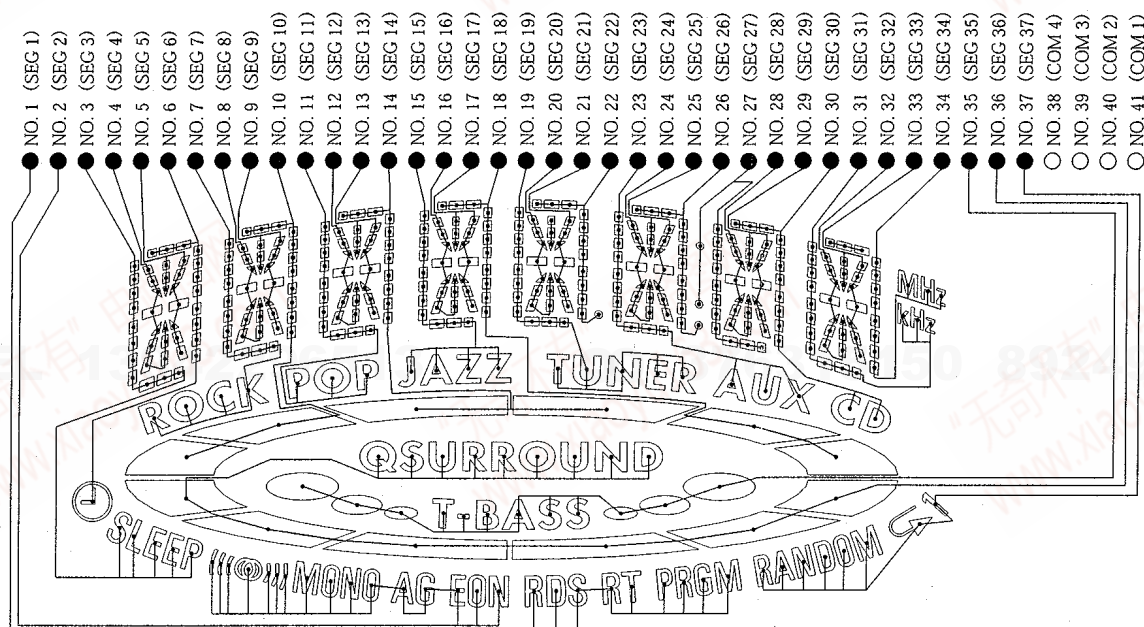
IC, LC72131D-N



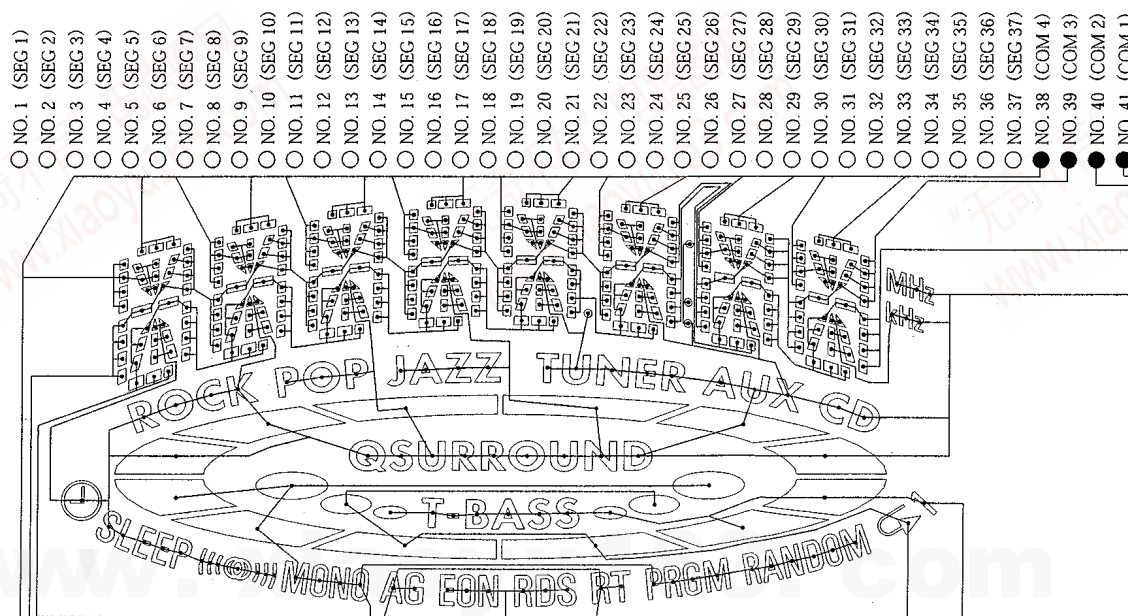
# LCD DIAGRAM



## SEGMENT SIDE



## COMMON SIDE



**IC DESCRIPTION**

IC, LC877256V-5V22

Pin No.	Pin Name	I/O	Description
1 ~ 4	NC	-	Not connected.
5	I-WRQ	I	CD WRQ input.
6	I-DRF	I	CD DRF input.
7	I-CDDO	I	CD sub code input.
8	O-VOL CTL	O	Volume control output.
9	O-AON	O	Main power ON/OFF control output.
10	O-CKSFT	O	Clock shift.
11	RST	I	Micon reset input.
12	I-ACOFF	I	Hold A/D input.
13	I-TU-SIG	I	RDS signal level A/D input. (Connected to GND through a resistor.)
14	VSS1	-	GND.
15	CF1	-	9.43 MHz oscillator circuit.
16	CF2		
17	VDD1	-	Power supply.
18	I-KEY0	I	Key0 A/D input.
19	I-KEY1	I	Key1 A/D input.
20	I-DOOR	I	CD door SW ON/OFF input.
21	I-LVL	I	Not used.
22	I-TUDO	I	Tuner tune IFC input.
23	I-STEREO	I	Tuner stereo input.
24	I-COLOR	I	Color A/D input.
25	I-INT2	I	Initial A/D input.
26	I-TMBASE	I	Time base clock base input.
27	I-RDSCLK	I	RDS clock input. (Connected to GND through a resistor.)
28	I-RDSDATA	I	RDS data input. (Not used)
29	I-RMC	I	Remote control input.
30	O-PLLCE	O	PLL chip enable output.
31	O-TPCLK	I	Test point input.
32	O-LDBL	O	Back light blue output.
33	O-LDUM	O	Back light umber output.
34	O-LDGR	O	Back light green output.
35	O-LDTP	O	Not used.
36	O-LDSP	O	SPKR LED ON/OFF control.
37 ~ 38	NC	-	Not connected.
39 ~ 53	S9 ~ S23	O	LCD segment output.
54	VDD2	-	Power supply.
55	VSS2	-	GND.
56 ~ 77	S24 ~ S45	O	LCD segment output.
78 ~ 82	NC	-	Not connected.
83 ~ 86	COM0 ~ COM3	O	LCD segment output.
87 ~ 88	NC	-	Not connected.

Pin No.	Pin Name	I/O	Description
89	VSS3	-	GND.
90	VDD3	-	Power supply.
91	O-P.ON	O	Power ON/OFF control.
92	O-MUTE	O	Mute ON/OFF control output.
93	O-TUON	O	Tuner ON/OFF control output.
94	O-CDON	O	CD ON/OFF control output.
95	O-CDDATA	O	CD data output.
96	O-CDCE	O	CD enable output.
97	O-CDCLK	O	CD clock output.
98	O-PLLCLK	O	PLL clock output.
99	O-PLLDATA	O	PLL data output.
100	NC	-	Not connected.



## IC, LA9241ML

Pin No.	Pin Name	I/O	Description
1	FIN2	I	Connects to the pickup's photo diode; adding this pin to pin FIN1 generates RF signal, and subtracting it generates FE signal.
2	FIN1	I	Connects to the pickup's photo diode.
3	E	I	Connects to the pickup's photo diode; subtracting this pin from pin F generates TE signal.
4	F	I	Connects to the pickup's photo diode.
5	TB	I	Input for DC component of TE signal.
6	TE–	I	Connects to the resistor between this pin and TE pin for setting the gain of TE signal.
7	TE	O	Output for TE signal.
8	TESI	I	Input for TES (Track Error Sense) comparator, TE signal is band-passed and inputted.
9	SCI	I	Input for shock detection.
10	TH	I	For setting tracking gain time constant.
11	TA	O	TA amplifier output pin.
12	TD–	I	For constructing tracking phase compensation constant between TD and VR pins.
13	TD	O	For setting tracking phase compensation.
14	JP	I	For setting the amplifier of tracking jump signal (kick pulse).
15	TO	O	Output for tracking control signal.
16	FD	O	Output for focusing control signal.
17	FD–	I	For constructing focusing phase compensation constant between FD and FA pins.
18	FA	O	For constructing focusing phase compensation constant between FD– and FA– pins.
19	FA–	I	For constructing focusing phase compensation constant between FA and FE pins.
20	FE	O	Output for FE signal.
21	FE–	I	Connects to the gain-setting resistor of FE signal between this pin and FE pin.
22	A-GND	–	GND for analog signals.
23	SP	O	Single end output of CV+ and CV– pin input signal.
24	SPI		
25	SPG	I	Connects to the gain-setting resistor during spindle 12cm mode. (Not used)
26	SP–	I	Connects to spindle phase compensation constant together with SPD pin.
27	SPD	O	Output for spindle control signal.
28	SLEQ	I	Connects to sled phase compensation constant.
29	SLD	O	Output for sled control signal.
30	SL–	I	Input for sled-sending signal from microcontroller.
31	SL+	I	Input for sled-sending signal.
32	JP–	I	Input for tracking-jump signal from DSP.
33	JP+		
34	TGL	I	Input for tracking gain control signal from DSP; gain is low if TGL = "H".
35	TOFF	I	Input for tracking off control signal from DSP; off if TOFF = "H".
36	TES	O	Outputs TES signal to DSP.
37	HFL	O	HIGH FREQUENCY LEVEL; used to determine whether the main beam is on a pit or on a mirror.
38	SLOF	I	Input for sled servo off control.

Pin No.	Pin Name	I/O	Description
39	CV-	I	Input for CLV error signal from DSP.
40	CV+		
41	RFSM	O	Output for RF.
42	RFS-	O	For setting RF gain and 3T compensation constant together with RFSM.
43	SLC	O	SLICE LEVEL CONTROL; output for controlling the data slice level of DSP with RF waveform.
44	SLI	I	Input for controlling the data slice level of DSP.
45	D-GND	-	GND for digital system.
46	FSC	O	Output pin for focus search smoothing capacitor.
47	TBC	I	(Tracking Balance Control) EF balance variable range setting pin.
48	NC	-	Not connected.
49	DEF	O	Output for disk defect detection.
50	CLK	I	Standard clock input; DSP's 4.23MHz is inputted.
51	CL	I	Clock input for microcontroller command.
52	DAT	I	Data input for microcontroller command.
53	CE	I	Chip-enable input for microcontroller command.
54	DRF	O	Detect RF; output for RF level detection.
55	FSS	I	(Focus Search Mode) = search/+search against reference voltage switching pin. (Not used)
56	VCC2	-	VCC pin for servo and digital systems.
57	REFI	I	For connecting pass capacitor to reference voltage.
58	VR	O	Reference voltage output.
59	LF2	-	For setting disk defect-detection time constant.
60	PHI	-	Connects to capacitor for RF signal peak hold.
61	BHI	-	Connects to capacitor for RF signal bottom hold.
62	LDD	O	Output for APC circuit.
63	LDS	I	Input for APC circuit.
64	VCC1	-	VCC pin for RF system.

## IC, LC78622NE

Pin No.	Pin Name	I/O	Description
1	DEFI	I	Defect detection signal (DEF) input.
2	TAI	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
3	PDO	O	External VCO control phase comparator output.
4	VVSS	–	Internal VCO ground. Must be connected to 0V.
5	ISSET	O	PDO output current adjustment resistor connection.
6	VVDD	–	Internal VCO power supply.
7	FR	–	VCO frequency range adjustment.
8	VSS	–	Digital system ground. Must be connected to 0V.
9	EFMO	O	Slice level control; EFM signal output.
10	EFMIN	I	Slice level control; EFM signal input.
11	T2	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
12	CLV+	O	Disc motor control output.
13	CLV–		Three-value output is also possible when specified by microprocessor command.
14	V/P	O	Rough servo/phase control automatic switching monitor output. Outputs a high level during rough servo and a low level during phase control.
15	HFL	I	Track detection signal input. This is a Schmitt input.
16	TES	I	Tracking error signal input. This is a Schmitt input.
17	TOFF	O	Tracking off output.
18	TGL	O	Tracking gain switching output. Increase the gain when low.
19	JP+	O	Track jump output.
20	JP–		Three-value output is also possible when specified by microprocessor command.
21	PCK	O	EFM data playback clock monitor. Outputs 4.3218 MHz when the phase is locked. (Not used)
22	FSEQ	O	Synchronization signal detection output. Outputs a high level when the synchronization signal detected from the EFM signal and the internally generated synchronization signal agree. (Not used)
23	VDD	–	Digital system power supply.
24	SL+	O	Serial data command sled signal output terminal from microprocessor.
25	SL–		
26	NC	–	Not used.
27	PU IN	I	CD pickup inside limit switch.
28	CD R/W	O	CD R/W gain ON/OFF signal.
29	EMPH	O	De-emphasis monitor pin. A high level indicates playback of a de-emphasis disk. (Not used)
30	C2F	O	C2 flag output. (Not used)
31	DOUT	O	Digital output (EIAJ format). (Not used)
32	T3	I	Test input. A pull-down resistor is built in. Must be connected to 0V.
33	T4		
34	NC	–	Not connected.
35	MUTEL	O	Left channel one-bit D/A converter mute output. (Not used)
36	LVDD	–	Left channel one-bit D/A converter power supply.

Pin No.	Pin Name	I/O	Description
37	LCHO	O	Left channel one-bit D/A converter output.
38	LVSS	–	Left channel one-bit D/A converter ground. (Must be connected to 0V)
39	RVSS	–	Right channel one-bit D/A converter ground. (Must be connected to 0V)
40	RCHO	O	Right channel one-bit D/A converter output.
41	RVDD	–	Right channel one-bit D/A converter power supply.
42	MUTER	O	Right channel one-bit D/A converter mute output. (Not used)
43	XVDD	–	Crystal oscillator power supply.
44	XOUT	O	Connections for a 16.934MHz crystal oscillator element.
45	XIN	I	
46	XVSS	–	Crystal oscillator ground. Must be connected to 0V.
47	SBSY	O	Subcode block synchronization signal output. (Not used)
48	EFLG	O	C1, C2 single and double error correction monitor pin. (Not used)
49	PW	O	Subcode P, Q, R, S, T, U, V and W output. (Not used)
50	SFSY	O	Subcode frame synchronization signal output. This signal falls when the subcode are in the standby state. (Not used)
51	SBCK	I	Subcode readout clock input. This is a Schmitt input. (Must be connected to 0V.)
52	FSX	O	Output for the 7.35 kHz synchronization signal divided from the crystal oscillator. (Not used)
53	WRQ	O	Subcode Q output standby output.
54	RWC	I	Readwrite control input. This is a Schmitt input.
55	SQOUT	O	Subcode Q output.
56	COIN	I	Command input from the control microprocessor.
57	CQCK	I	Input for both the command input acquisition clock and the SQOUT pin subcode readout clock input. This is a Schmitt input.
58	$\overline{\text{RES}}$	I	Chip reset pin. (This pin must be set low briefly after power is first applied)
59	T11	O	Test output. Leave open. (Normally outputs a low level). (Not used)
60	16M	O	16.9344 MHz output. (Not used)
61	4.2M	O	4.2336 MHz output.
62	T5	I	Test input. A pull-down resistor is built in. (Must be connected to 0V)
63	$\overline{\text{CS}}$	I	Chip select input. A pull-down resistor is built in. (Must be connected to 0V.)
64	T1	I	Test input. No pull-down resistor. (Must be connected to 0V)

## ADJUSTMENT – 1 <TUNER / FRONT>

### < TUNER SECTION >

1. Clock frequency Check  
Settings : • Test point : TP3 (CLK)  
Method : Set to AM 1710 kHz and check that the test point is 2160 kHz  $\pm$  45 Hz.
2. AM VT Check  
Settings : • Test point : TP4 (VT)  
Method : Set to AM 1710 kHz and check that the test point is less than 8.5 V. Then set to AM 530 kHz and check that the test point is more than 0.6 V.
3. AM Tracking Adjustment  
Settings : • Test point : TP8 (Rch), TP9 (Lch)  
• Adjustment location : L981 (1/3)  
Method : Set to AM 1000 kHz and adjust L981 (1/3) so that the test point becomes maximum.
4. AM IF Adjustment  
Settings : • Test point : TP8 (Rch), TP9 (Lch)  
• Adjustment location : L772 ..... 450 kHz
5. FM VT Check  
Settings : • Test point : TP4 (VT)  
Method : Set to FM 87.5 MHz check that the test point is more than 0.5 V. Then set to FM 108.0 MHz and check that the test point is less than 8.0 V.
6. FM Tracking check  
Settings : • Test point : TP8 (Rch), TP9 (Lch)  
Method : Set to FM 98.0 MHz and check that the test point is less than 9 dB $\mu$ V.
7. DC Balance / Mono Distortion Adjustment  
Settings : • Test point : TP5, TP6 (DC Balance)  
TP8 (Rch), TP9 (Lch)  
(Mono Distortion)  
• Adjustment location : L771  
• Input level : 60 dB $\mu$ V  
Method : Set to FM 98.0 MHz and adjust L771 so that the voltage between TP5 and TP6 becomes 0 V  $\pm$  0.04 V with minimum distortion.

8. Output Level Check  
<AM>  
Settings : • Test point : TP8 (Rch), TP9 (Lch)  
• Input level : 74 dB $\mu$ V  
Method : Set to AM 1000 kHz and check that the test point is 140 mV  $\pm$  3 dB.

- <FM>  
Settings : • Test point : TP8 (Rch), TP9 (Lch)  
• Input level : 60 dB $\mu$ V  
Method : Set to FM 98.0MHz and check that the test point is 600 mV  $\pm$  3 dB.

9. FM Separation Check  
Settings : • Test point : TP8 (Rch), TP9 (Lch)  
• Input level : 60 dB $\mu$ V  
Method : Set to FM 98.0 MHz and check that the test point is more than 25 dB.

### < FRONT SECTION >

1.  $\mu$ -CON OSC Adjustment  
Settings : • Test point : TP1 (KEY-SCAN)  
TP2 (GND)  
• Adjustment location : L201  
Method : Insert AC plug while pressing of "POWER" key and "TUNER" function key.  
Connect a frequency counter across TP5 and TP6.  
Then adjust L201 so that the test point becomes 97.257 Hz  $\pm$  0.097 Hz.  
[ Manual Reset ]  
Make up for RESET after adjustment.  
\* Reset is to press "POWER" key while pressing of "CLEAR (STOP)" key.

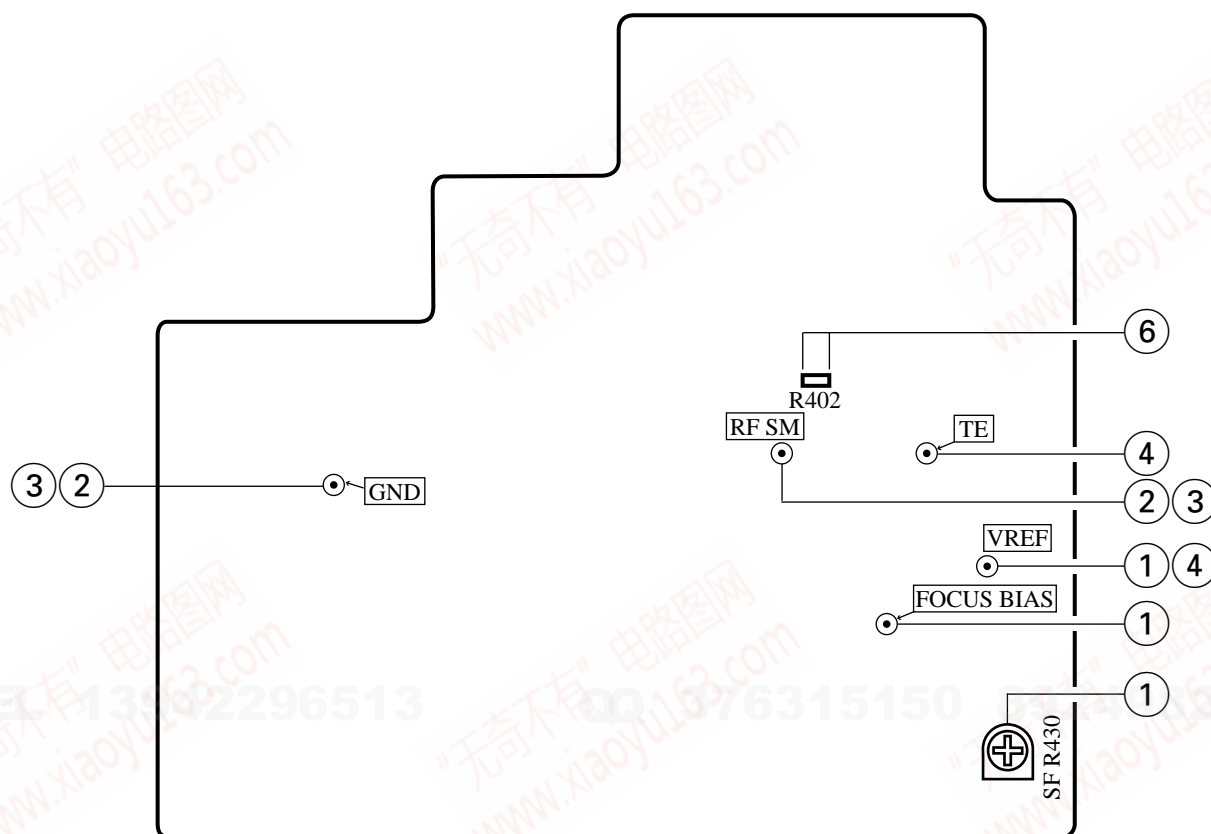


ADJUSTMENT – 2 (CD)

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CD C.B (PATTERN SIDE)



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## CD Adjustment Method

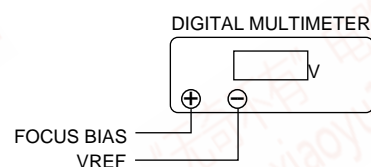
- Perform the adjustments after the machine enters the test mode.
- Place the CD mechanism horizontally level.
- Equipment and tools required

Measuring equipment: Oscilloscope (Use the probe of 10:1)  
Digital VOM (Use it in the DC Volt range.)  
Jitter meter (Kikusui 6235 or equivalent)

Test disc: TCD-782  
ATD-001

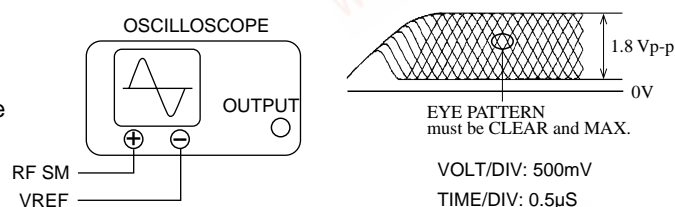
### 1. FOCUS BIAS Adjustment

- 1) Connect a digital VOM to the test point (FOCUS BIAS), (VREF).
- 2) Play back the 2nd track of the TCD-782.
- 3) Adjust SFR430 until the VOM indicates 0 +/-10 mV.



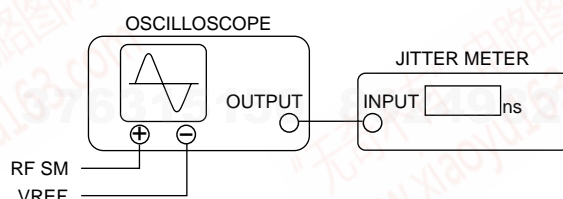
### 2. RF Waveform Check

- 1) Connect an oscilloscope to test point (RF SM), (GND).
- 2) Play back the 2nd track of the TCD-782.
- 3) Check to see that the RF waveform has the maximum amplitude and the center of the wedge waveform has the clear blank.



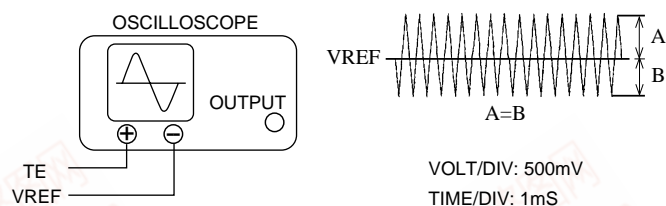
### 3. Jitter Check

- 1) While an oscilloscope is kept connected in the same test point as in the 2. RF Waveform Check, connect the output terminal of an oscilloscope to the input terminal of a jitter meter.
- 2) Set the VOLT range selector of an oscilloscope to 500 mV range or lower.
- 3) Play back the 2nd track of the TCD-782.
- 4) Check to see that a jitter meter indicates 28.0 ns or less.



### 4. Tracking Balance Check

- 1) Connect an oscilloscope to test point (TE), (VREF).
- 2) Play back the 2nd track of the TCD-782 and press the PAUSE button.
- 3) Check to see that the traverse waveform on an oscilloscope is vertically symmetrical.



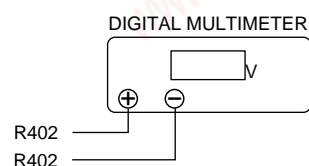
### 5. Play-ability Check

- 1) Play back the 3rd, 8th and 13th track of ATD-001. Check to see that noise does not occur and sound skipping does not occur.

### 6. Laser Current Check

\*Do not perform this measurement unless the laser is suspected to be defective.

- 1) Connect a digital VOM across the resistor R402 (10 ohms).
- 2) Play back the TCD-782 and check the DC voltage value on a digital VOM.
- 3) Calculate the laser current (Iop) by dividing the DC voltage across R402 by the resistor value (R402 = 10 ohms).  
Laser current (Iop) = DC voltage across R402 divided by the resistor value (10 ohms).  
Check to see that the laser current (Iop) is 80 mA or less.



## CD TEST MODE

### 1. How to Start the CD Test Mode

While pressing the FUNCTION button, insert the AC plug to the power outlet.  
When the test mode is started, the message [CD TEST] is displayed.

### 2. How to Exit the CD Test Mode

Press the POWER button or press the FUNCTION button or disconnect the AC plug.

### 3. Function Descriptions and Application of the CD Test Mode

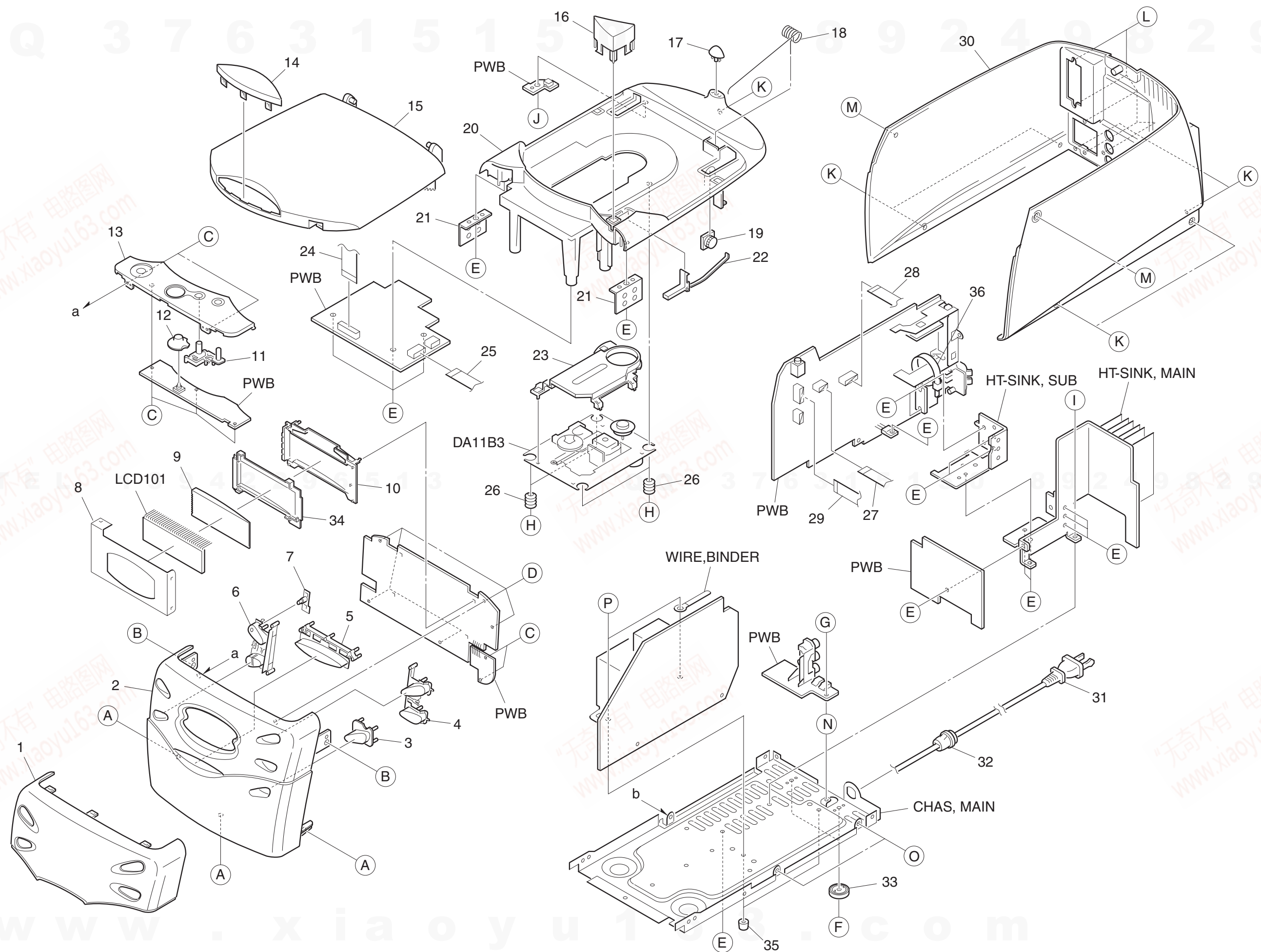
In order to use the test mode, short-circuit the switch S401.

No	Mode	Operation	Display	Function	Checking item
1	Start mode		All CD TEST indicators light		• Microprocessor check
2	Search mode	STOP button	TOC READ	<ul style="list-style-type: none"> <li>• LD illuminates all the time</li> <li>• Focus search continuous operations *1</li> <li>• Spindle motor continuous kick</li> </ul>	<ul style="list-style-type: none"> <li>• APC circuit check</li> <li>• Laser current measurement</li> <li>• Focus search waveform check</li> <li>• Focus error waveform check (DRF in the search mode is ignored)</li> </ul>
3	Play mode	Play button	Normal	<ul style="list-style-type: none"> <li>• Normal playback</li> <li>• If TOC cannot be read, focus search is continued</li> </ul>	<ul style="list-style-type: none"> <li>• Each servo circuit is checked</li> <li>• DRF check</li> </ul>
4	Traverse mode	PAUSE button	Normal	<ul style="list-style-type: none"> <li>• Tracking servo OFF/ON Released by the STOP button.</li> </ul>	<ul style="list-style-type: none"> <li>• Tracking balance check</li> </ul>
5	Sled mode	FF button	CD TEST	<ul style="list-style-type: none"> <li>• Pickup moves to the inner circumference *2</li> </ul>	<ul style="list-style-type: none"> <li>• Sled circuit check</li> <li>• Tracking circuit check</li> <li>• Mechanism operation check</li> <li>• Pickup check</li> </ul>
		RWD button	CD TEST	<ul style="list-style-type: none"> <li>• Pickup moves to the outer circumference *2</li> </ul>	

\*1: The driver IC heats up and the protection circuit starts working when the focus search is continued for 10 minutes or longer.  
There can be a case that operations cannot be performed correctly.  
In such a case, turn off the main power. After cooling down the machine, restart the machine.

\*2: Be careful not to damage the gear because the sled motor rotates while the FF or RWD button is being pressed even if the pick-up is located in the innermost track or the outermost track.

MECHANICAL EXPLODED VIEW 1 / 1



# MECHANICAL PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CJ7-006-010		WINDOW, FR U
2	8B-CL7-001-010		CABI, FR U (L)
3	8B-CL7-008-010		LENS, SENSOR
4	8B-CL7-021-010		BTN, VOL (L)
5	8B-CL7-022-010		BTN, FUNC (L)
6	8B-CL7-020-010		BTN, POWER (L)
7	8B-CJ7-029-010		REFLECTOR, POWER
8	8B-CJ7-206-010		GUIDE, LCD COVER
9	8B-CJ7-023-010		LENS, LCD
10	8B-CJ7-204-010		GUIDE, LCD
11	8B-CJ7-018-010		BTN, SOUND
12	8B-CJ7-014-010		KEY, ENTER
13	8B-CL7-002-010		PANEL, TOP (L)
14	8B-CL7-010-010		WINDOW, CD (L)
15	8B-CL7-006-010		BOX, CD U (L)
16	8B-CL7-007-010		BTN, EJECT CD (L)
17	8B-CL7-016-010		LENS, REAR (L)
18	8B-CJ7-209-010		SPR-T, CD
19	8Z-NF6-210-010		DMPR, 150 N
20	8B-CL7-004-010		CHAS, CD U (L)
21	8B-CJ7-207-010		HLDR, CHAS CD
22	8B-CJ7-205-010		LEVER, EJECT CD
23	8Z-CDB-169-010		PANEL, CD SANYO
24	8B-CL7-647-010		FF-CABLE, 16P 1 100MM
25	88-909-181-110		FF-CABLE, 9P 1.25 180MM
26	88-CH6-220-010		CUSHION, CD A
27	88-907-221-110		FF-CABLE, 7P 1.25 220MM
28	88-910-201-110		FF-CABLE, 10P 1.25 200MM
29	88-912-201-110		FF-CABLE, 12P-1.25
30	8B-CL7-003-010		CABI, REAR U (L)

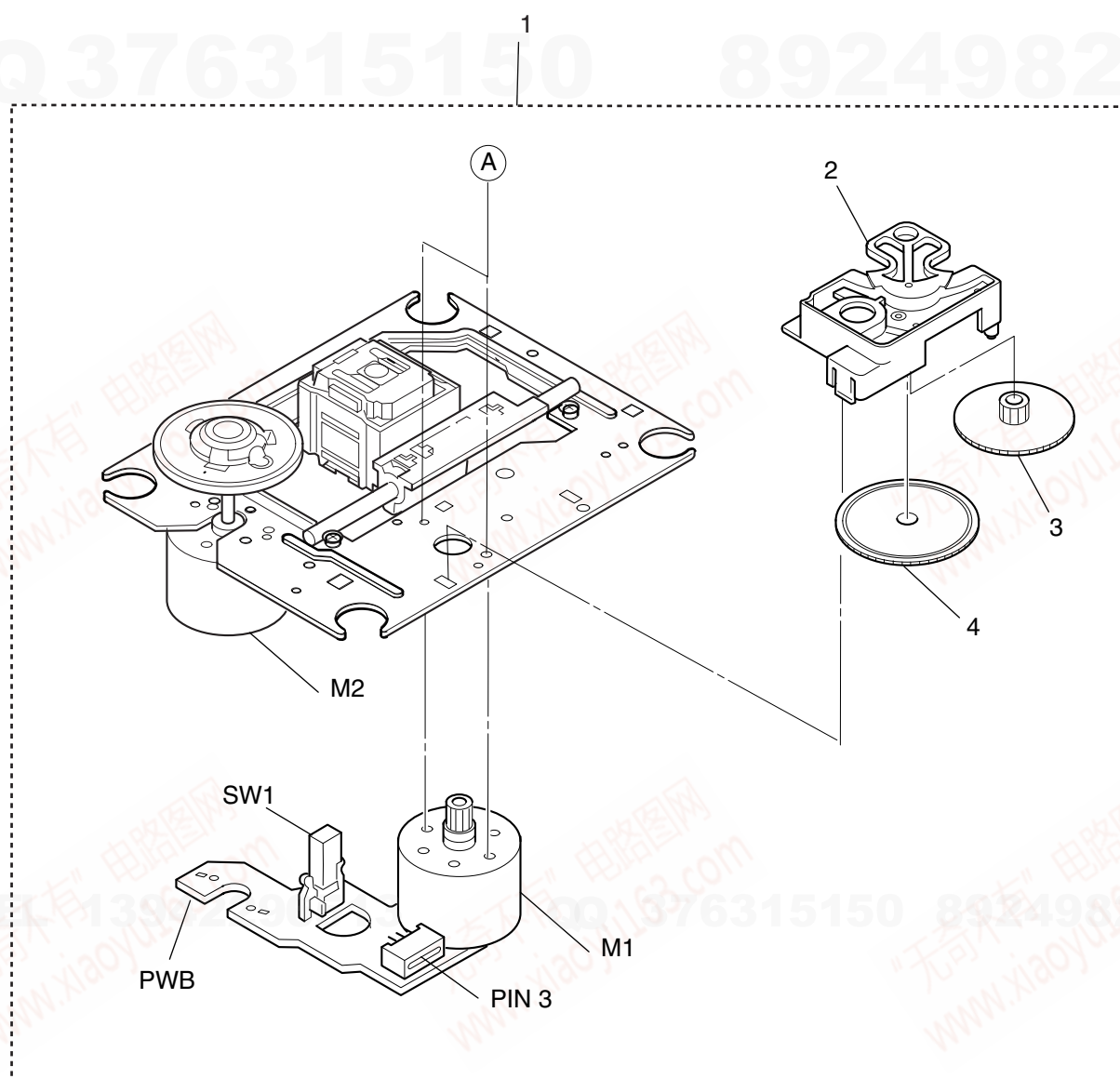
REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
△ 31	87-A80-110-010		AC CORD ASSY, U SPT-2W
32	87-085-189-010		BUSHING, CORD (U)
33	8B-CJ7-025-010		FOOT, REAR
34	8B-CJ7-010-010		GUIDE, LENS
35	8Z-NB8-254-010		COVER, PL M3
36	87-A90-193-010		HLDR, CV100 (B)
A	87-721-094-410		QT2+3-6 GLD
B	87-721-095-410		QT2+3-8GLD W/O SLOT
C	87-B10-294-010		BVT2+2.6-8
D	87-723-074-410		QT2+2.6-8 W/O SLOT BLK
E	87-067-579-010		TAPPING SCREW, BVT2+3-8
F	87-067-584-010		TAPPING SCREW, BVT2+3-6
G	87-B10-315-010		BVIT3B+3-8 R W/O
H	8Z-CK5-222-010		S-SCREW, CD+2.6-6 F9
I	87-B10-316-010		BVIT3B+3-10 R W/O
J	87-721-096-410		QT2+3-10 W/O SLOT
K	87-743-094-410		UT2+3-6BLK
L	87-067-761-010		TAPPING SCREW, BVT2+3-10
M	87-743-096-410		TAPPING SCREW, UT2+3-10 BLK
N	85-NF7-599-010		PVCW3.2-8-0.3
O	87-741-095-410		UT2+3-8 GLD
P	87-761-095-410		VFT2+3-8 W/O SLOT

## COLOR NAME TABLE

Basic color symbol	Color	Basic color symbol	Color	Basic color symbol	Color
B	Black	C	Cream	D	Orange
G	Green	H	Gray	L	Blue
LT	Transparent Blue	N	Gold	P	Pink
R	Red	S	Silver	ST	Titan Silver
T	Brown	V	Violet	W	White
WT	Transparent White	Y	Yellow	YT	Transparent Yellow
LM	Metallic Blue	LL	Light Blue	GT	Transparent Green
LD	Dark Blue	DT	Transparent Orange	GM	Metallic Green
YM	Metallic Yellow	DM	Metallic Orange	PT	Transparent Pink
LA	Aqua Blue	GL	Light Green	HT	Transparent Gray



# CD MECHANISM EXPLODED VIEW 1 / 1

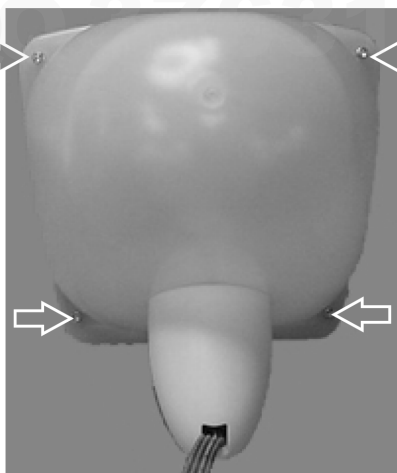


## CD MECHANISM PARTS LIST 1 / 1

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	M8-AZK-M90-070	DA11B3	
2	S2-121-A28-400		COVER GEAR
3	S2-511-A21-000		GEAR MIDDLE
4	S2-511-A21-100		GEAR, DRIVE
A	S1-PN2-03R-OSE		SCR PAN PCS 2-3

## SPEAKER DISASSEMBLY INSTRUCTIONS

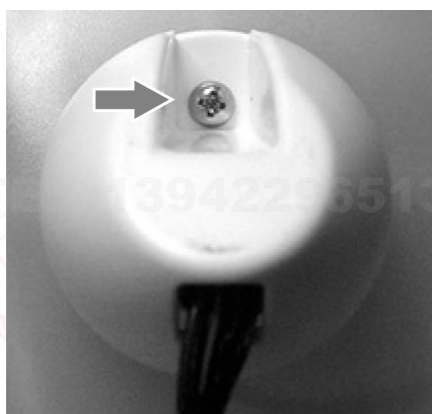
1. Remove the four screws with Allen wrench.



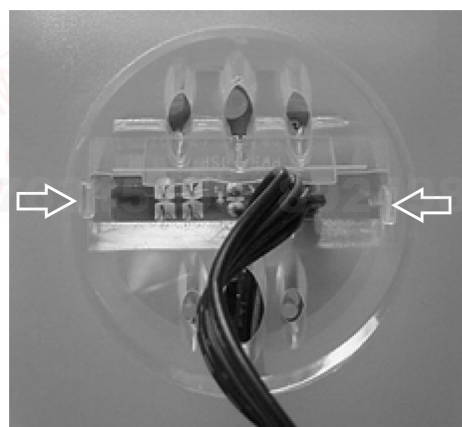
2. Remove the four screws and remove the speaker.



3. Remove the screw and remove the foot.



4. Press the two claws and remove the PWB.



# SPEAKER PARTS LIST (SX-LM313<YJSM>)

REF. NO.	PART NO.	KANRI NO.	DESCRIPTION
1	8B-CJ7-007-010		CABI,SPKR FR U
2	8B-CJ7-008-010		CABI,SPKR REAR U
3	8B-CL7-019-010		NET,SPKR ASSY (L)
4	8B-CJ7-009-010		FRAME,NET U
5	8B-CL7-018-010		NET,SPKR (L)
6	8B-CJ7-026-010		FOOT,SPKR UPPER
7	8B-CL7-017-010		FOOT,SPKR LOWER (L)
8	8B-CL7-616-010		SPKR,10 60HM
9	8Z-CL1-034-010		S-SCREW,ZCL1
10	87-721-074-410		QT2+2.6-8 W/O SLOT
11	87-067-822-010		BVT2+3-20 W/O SLOT
12	87-067-703-010		BVT2+3-10 W/O SLOT
13	87-661-097-410		VFT1+3-12

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